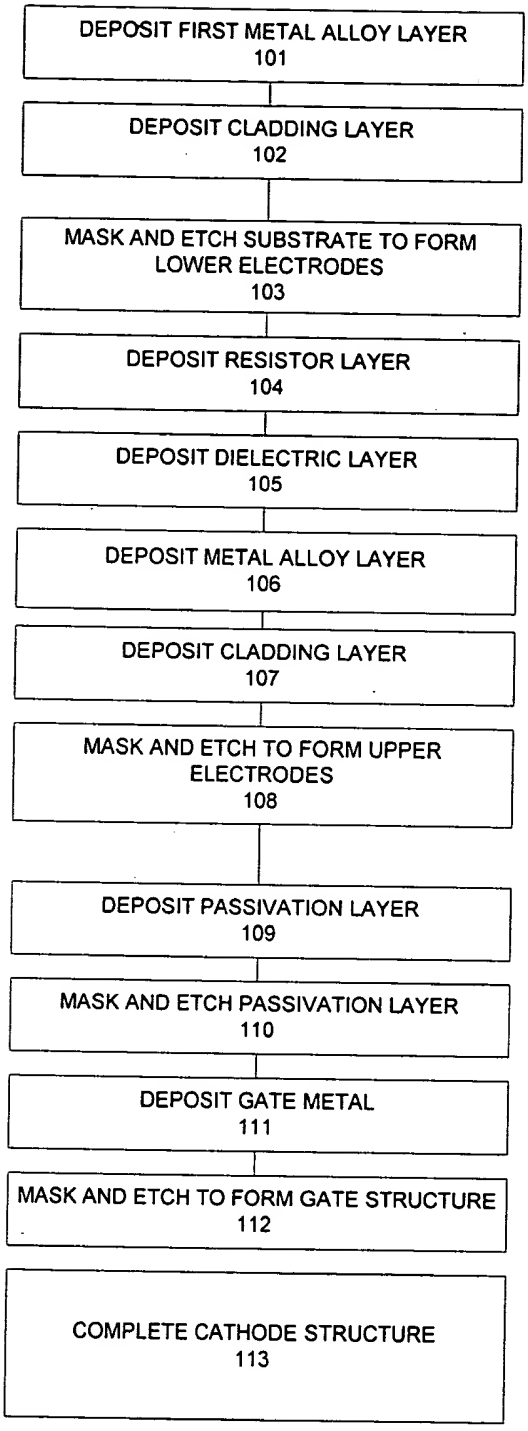

DEPOSIT FIRST METAL ALLOY LAYER
101
DEPOSIT CLADDING LAYER
102
MASK AND ETCH SUBSTRATE TO FORM LOWER ELECTRODES
103
DEPOSIT RESISTOR LAYER
104
DEPOSIT DIELECTRIC LAYER
105
DEPOSIT METAL ALLOY LAYER
106
DEPOSIT CLADDING LAYER
107
MASK AND ETCH TO FORM UPPER ELECTRODES
108
DEPOSIT PASSIVATION LAYER
109
MASK AND ETCH PASSIVATION LAYER
110
DEPOSIT GATE METAL
111
MASK AND ETCH TO FORM GATE STRUCTURE
112
COMPLETE CATHODE STRUCTURE
113

FIG. 1

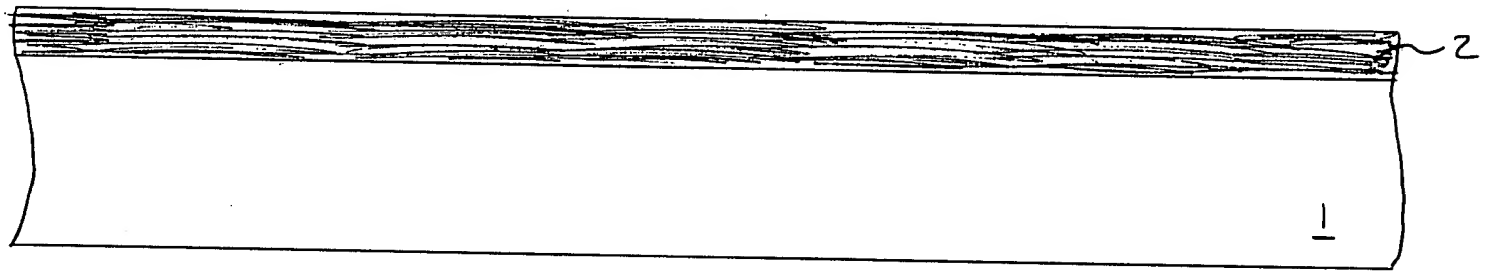


FIG. 2

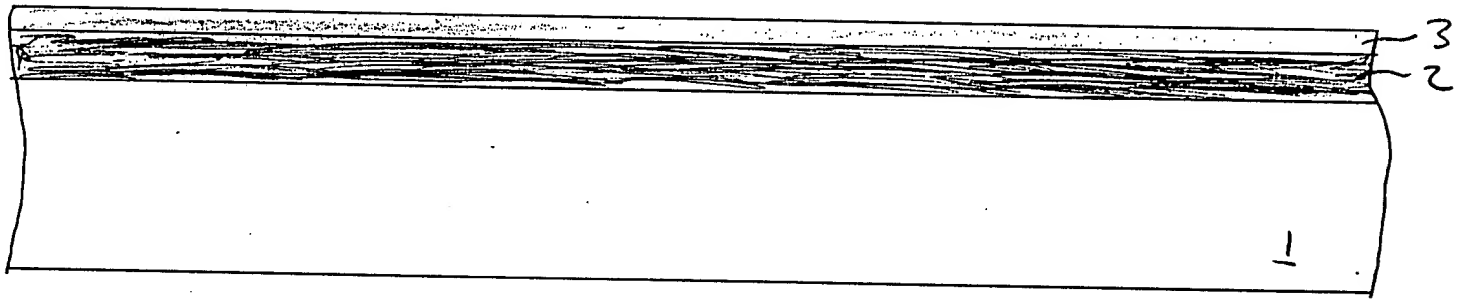


FIG. 3

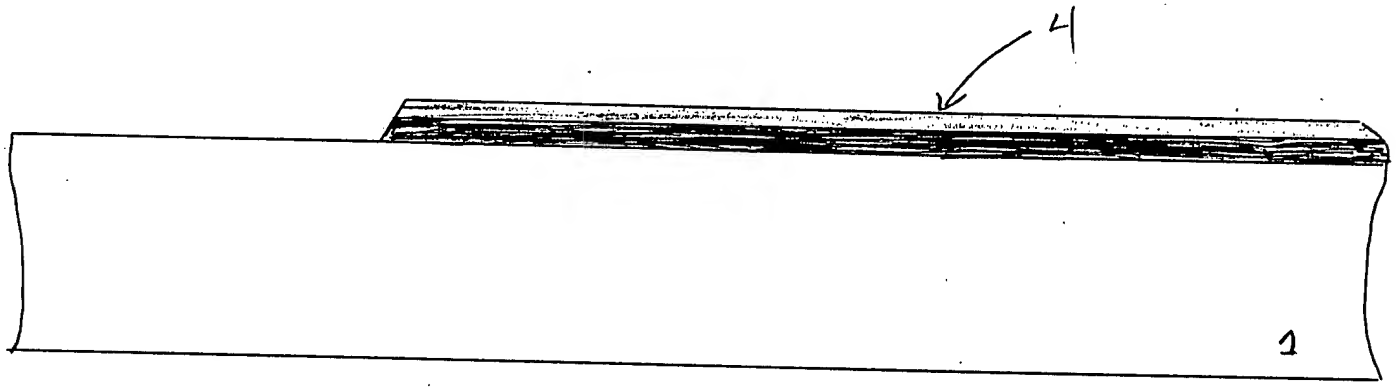


FIG. 4A

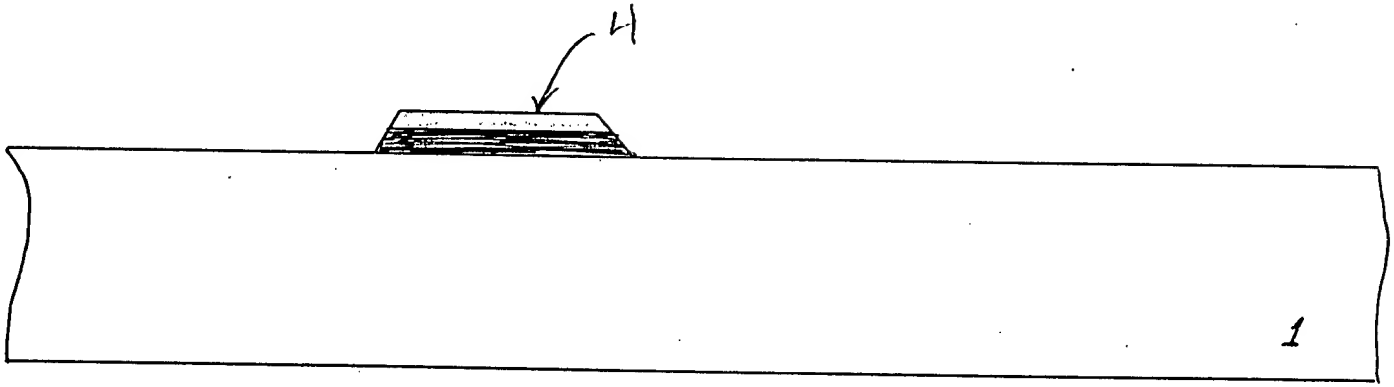


FIG. 4B

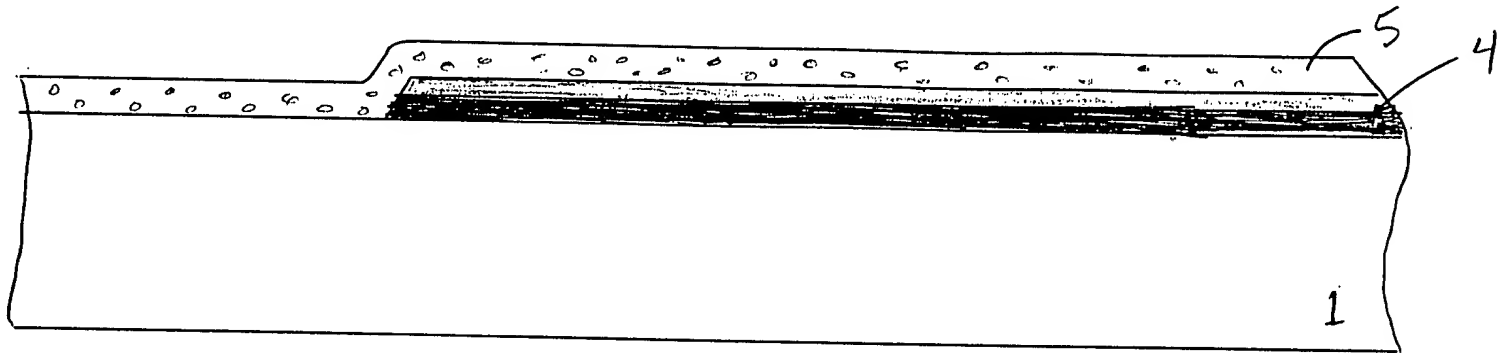


FIG. 5A

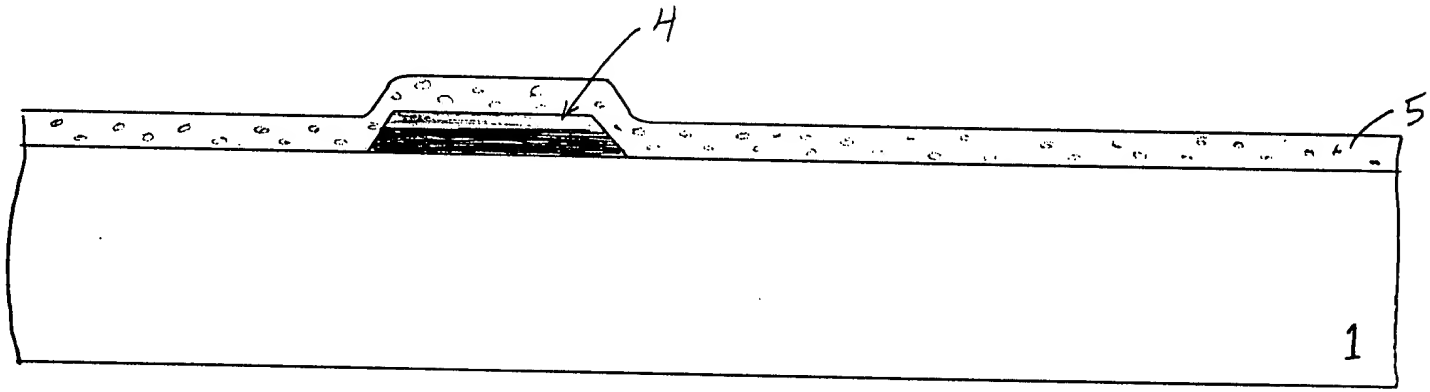


FIG. 5B

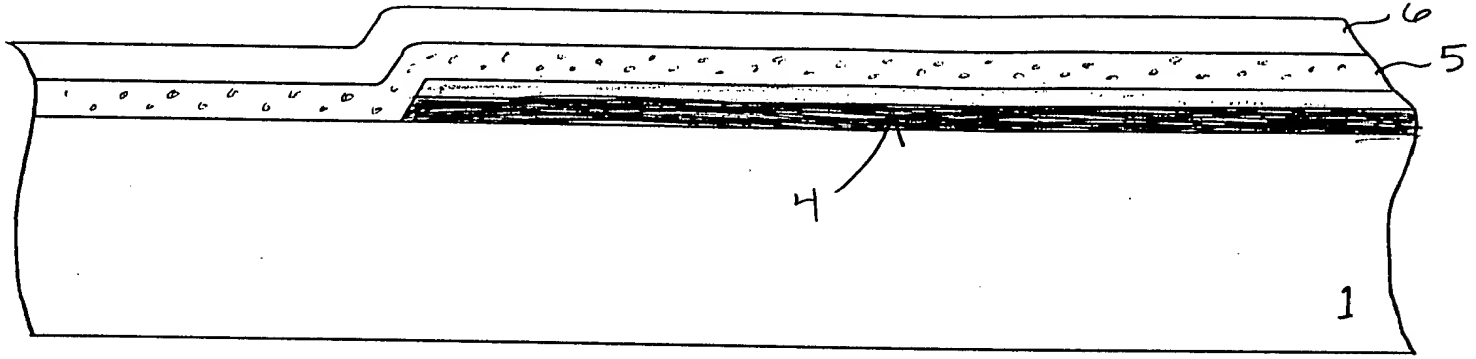


FIG. 6A

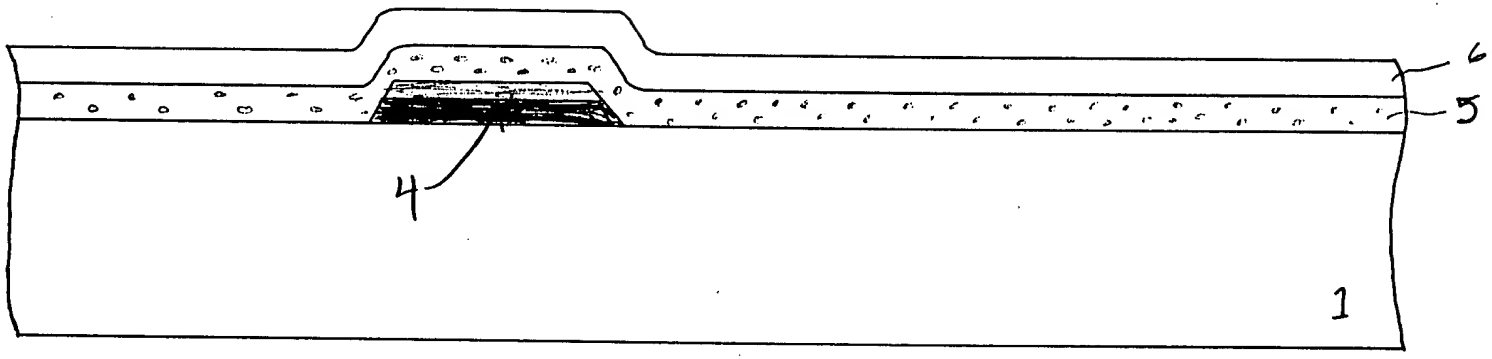


FIG. 6B

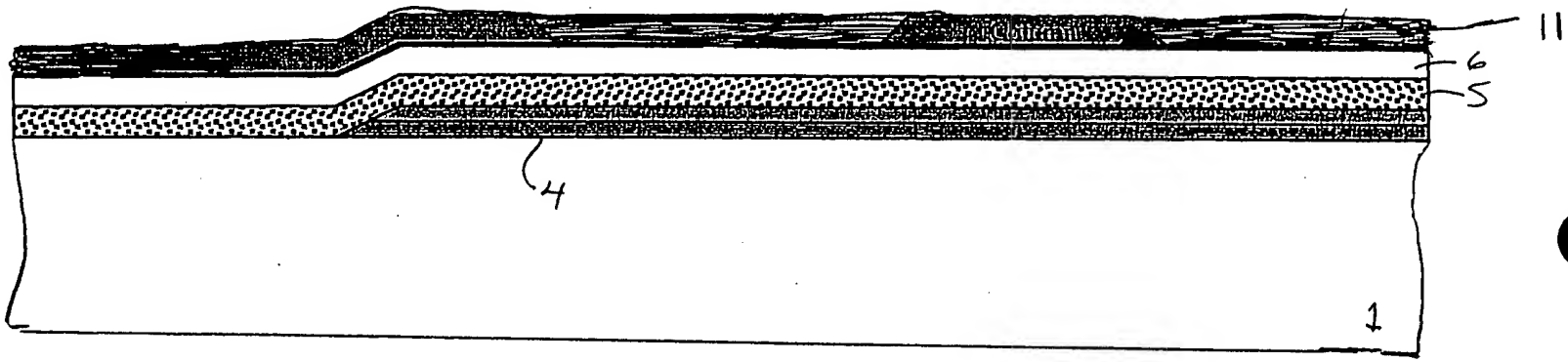


FIG. 7A

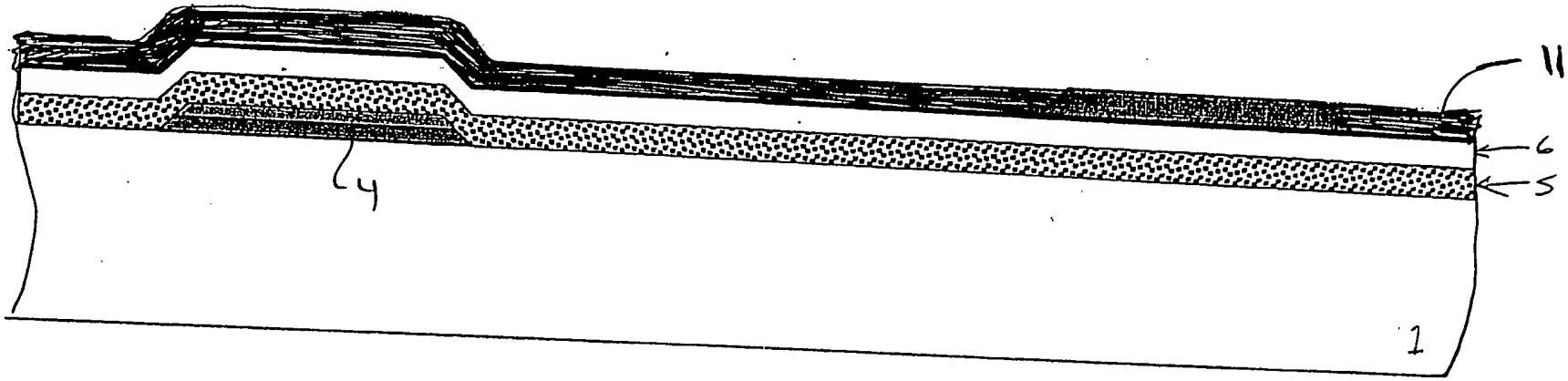


FIG. 7B

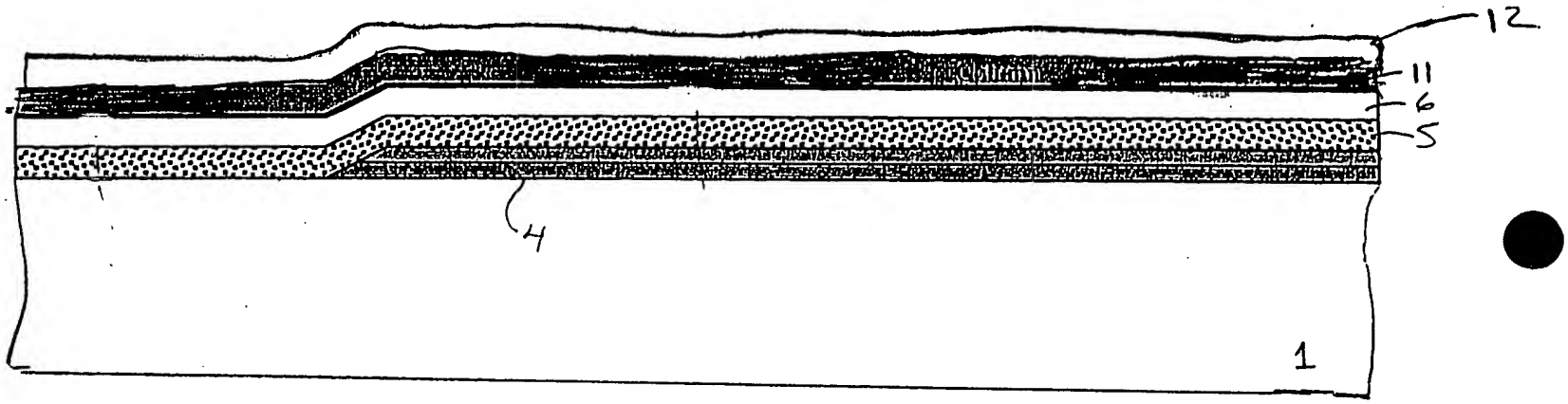


FIG. 8A

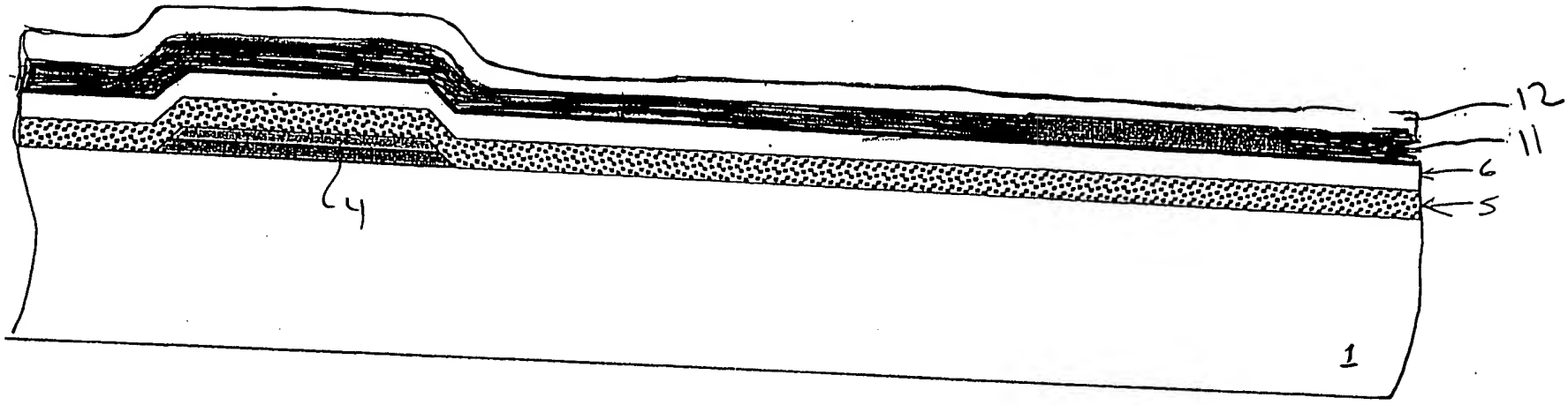


FIG. 8B

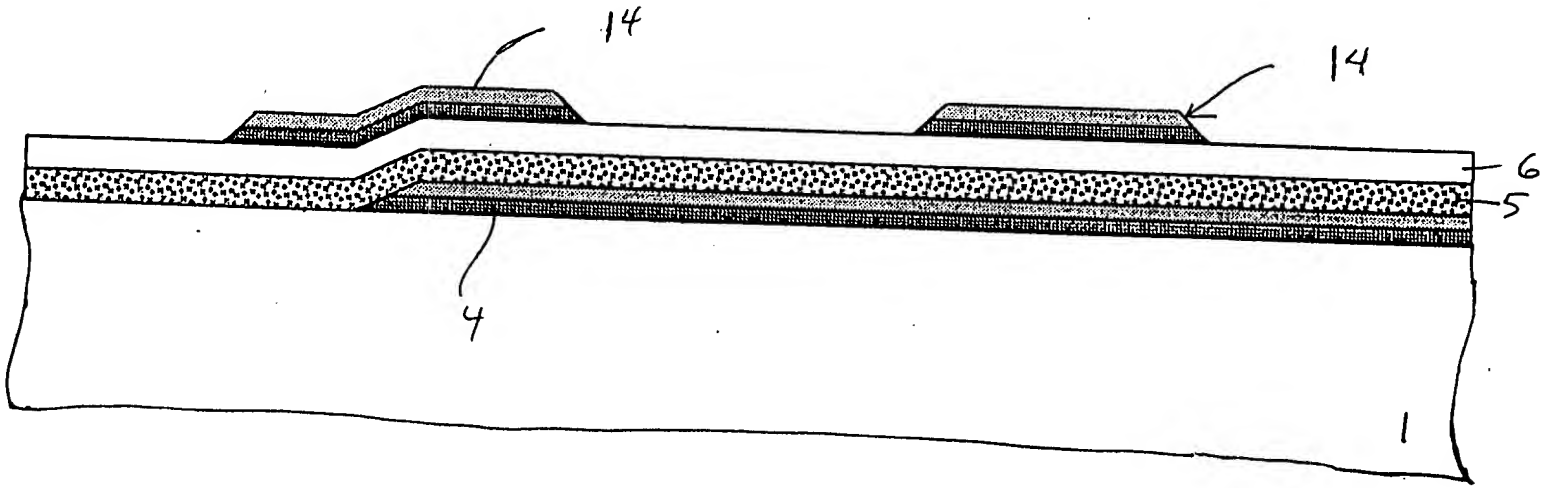


FIG. 9A

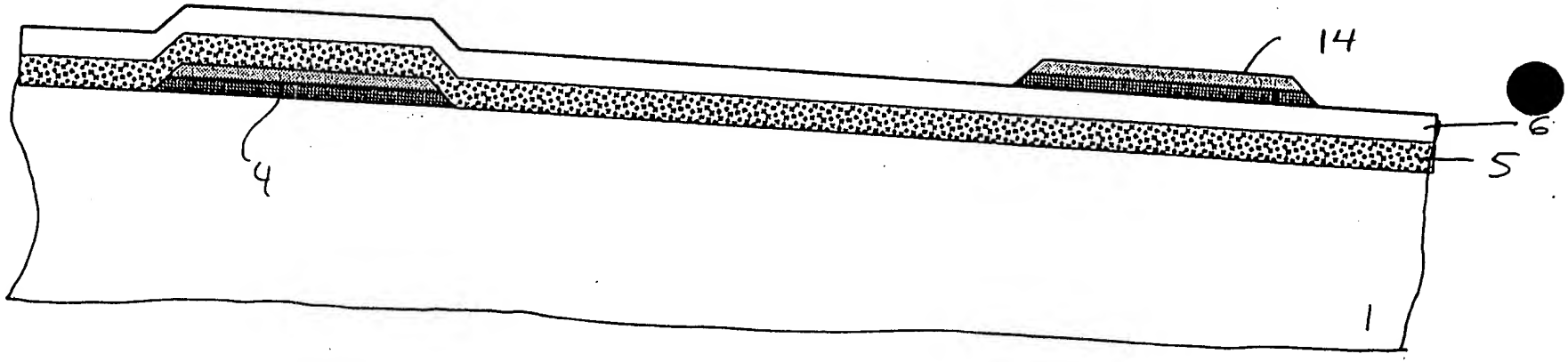


FIG. 9B

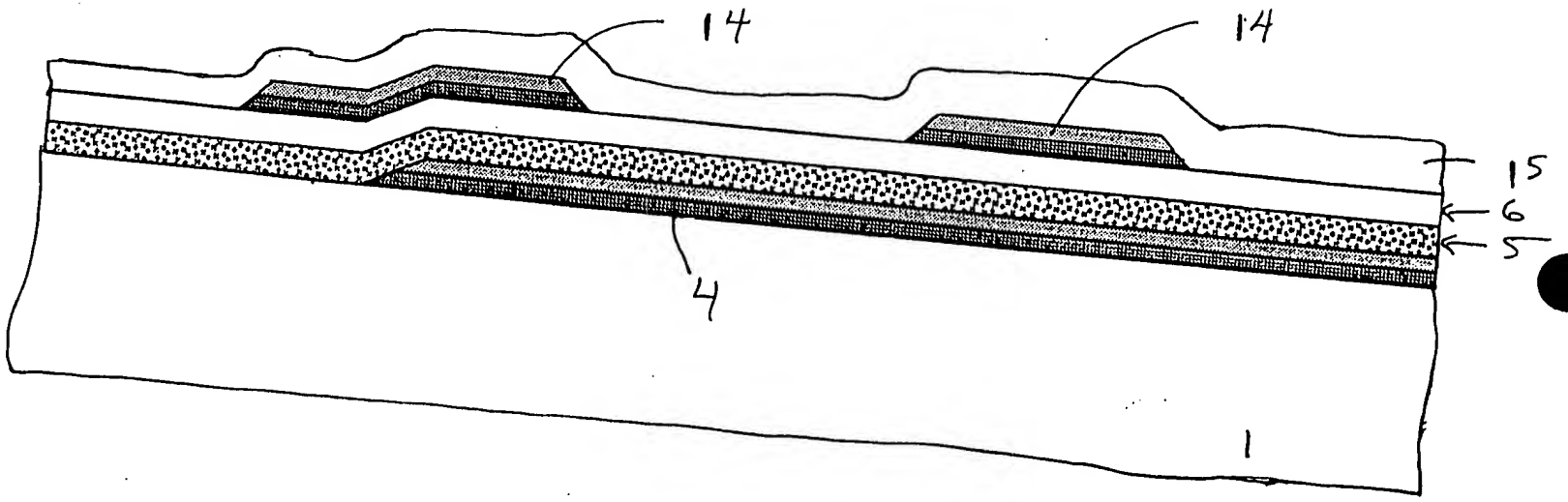


FIG. 10A

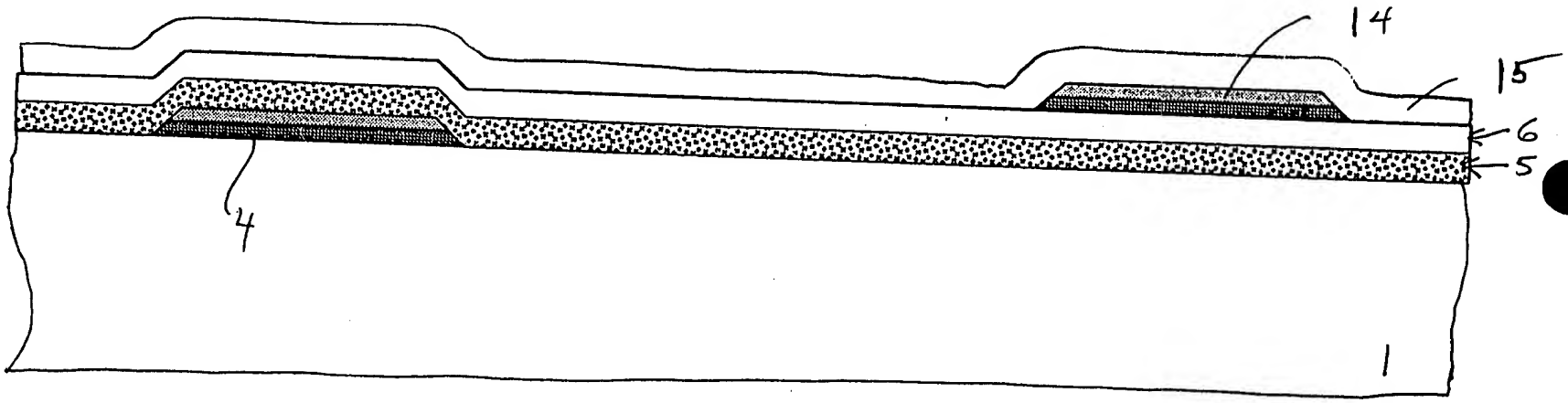


FIG. 10B

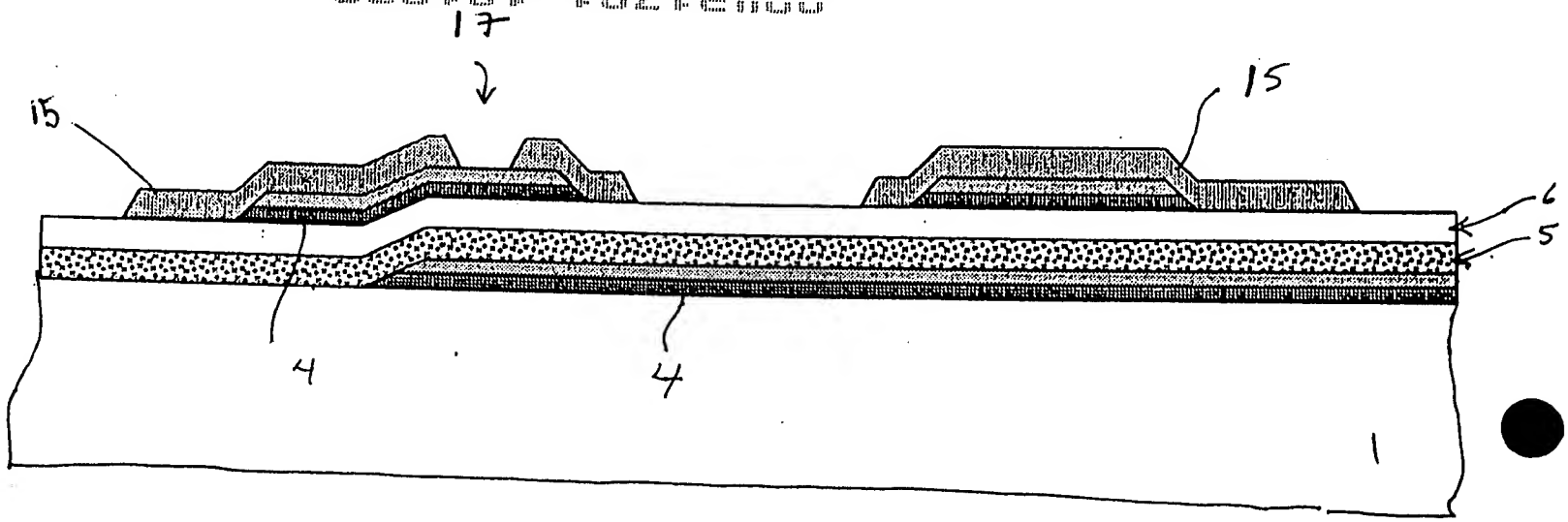


FIG. 11A

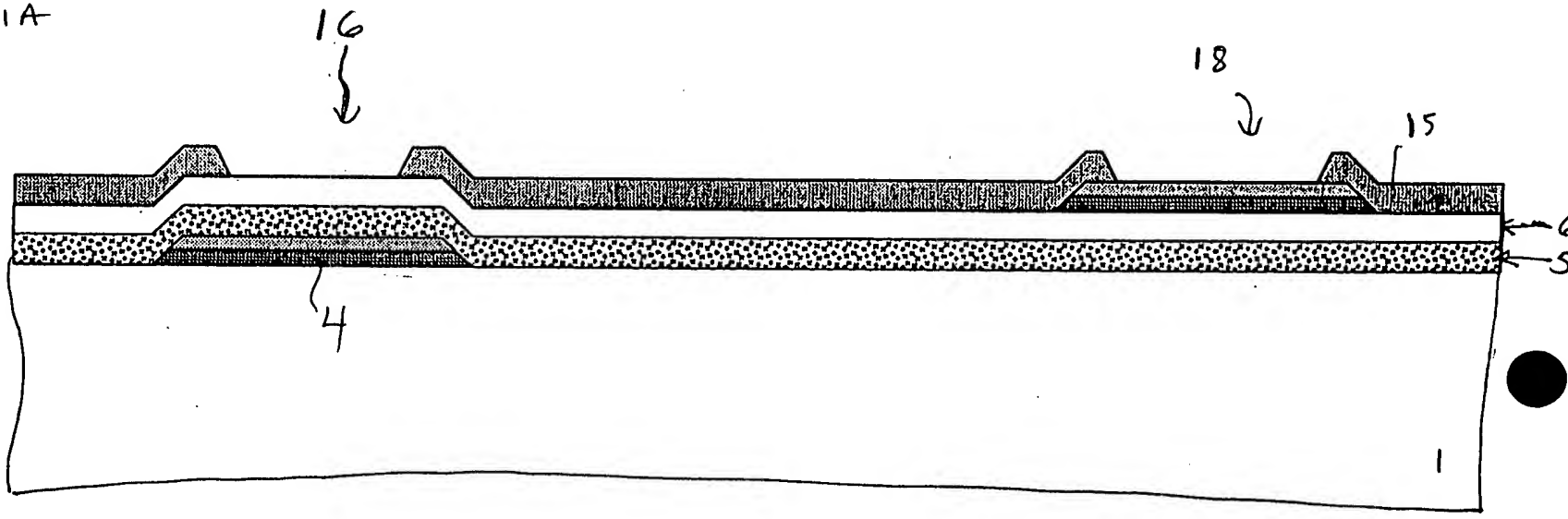


FIG. 11B

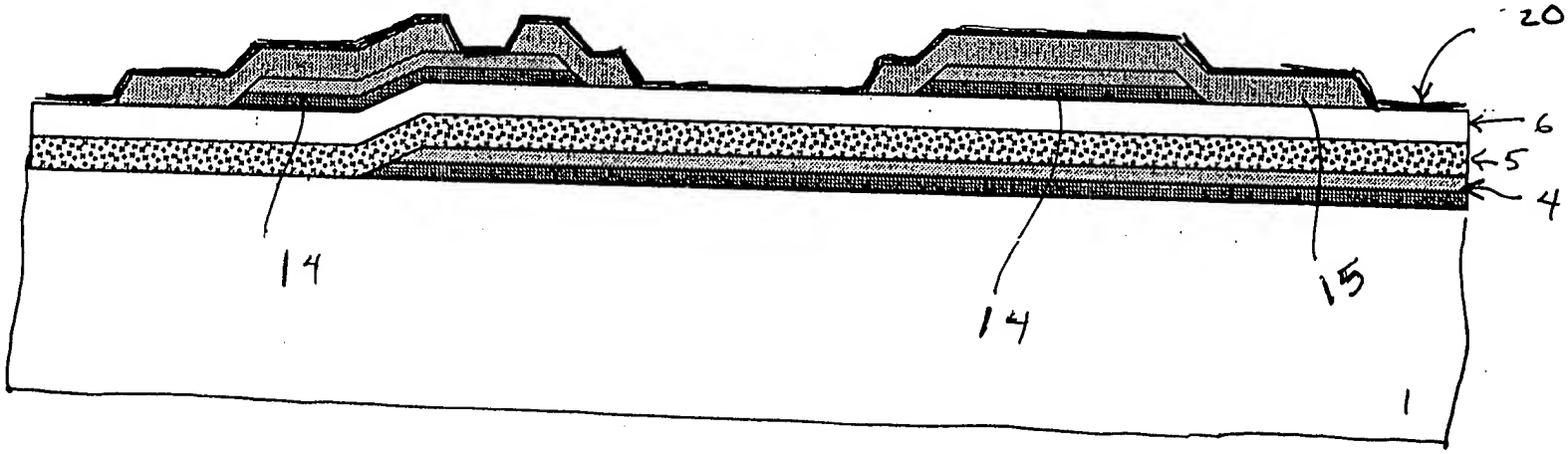


FIG. 12A

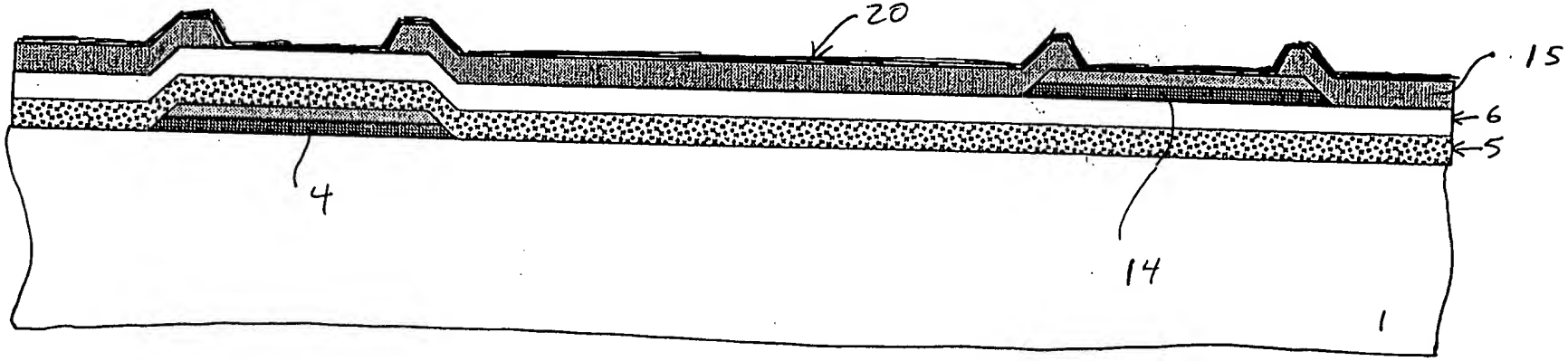


FIG. 12B

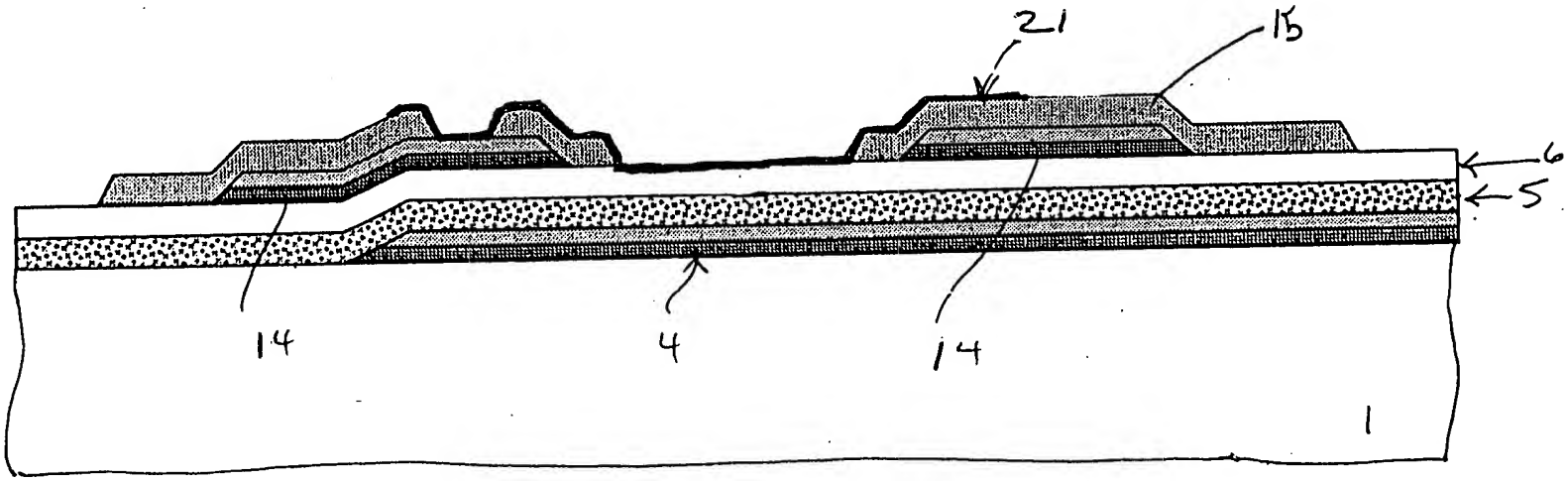


FIG. 13A

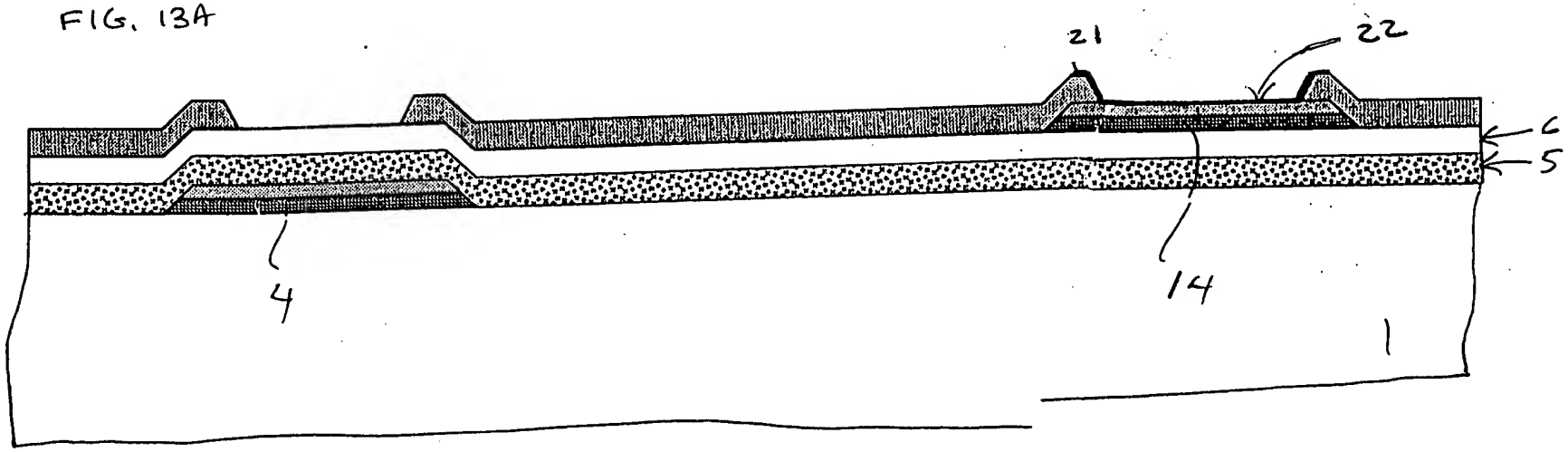


FIG. 13B

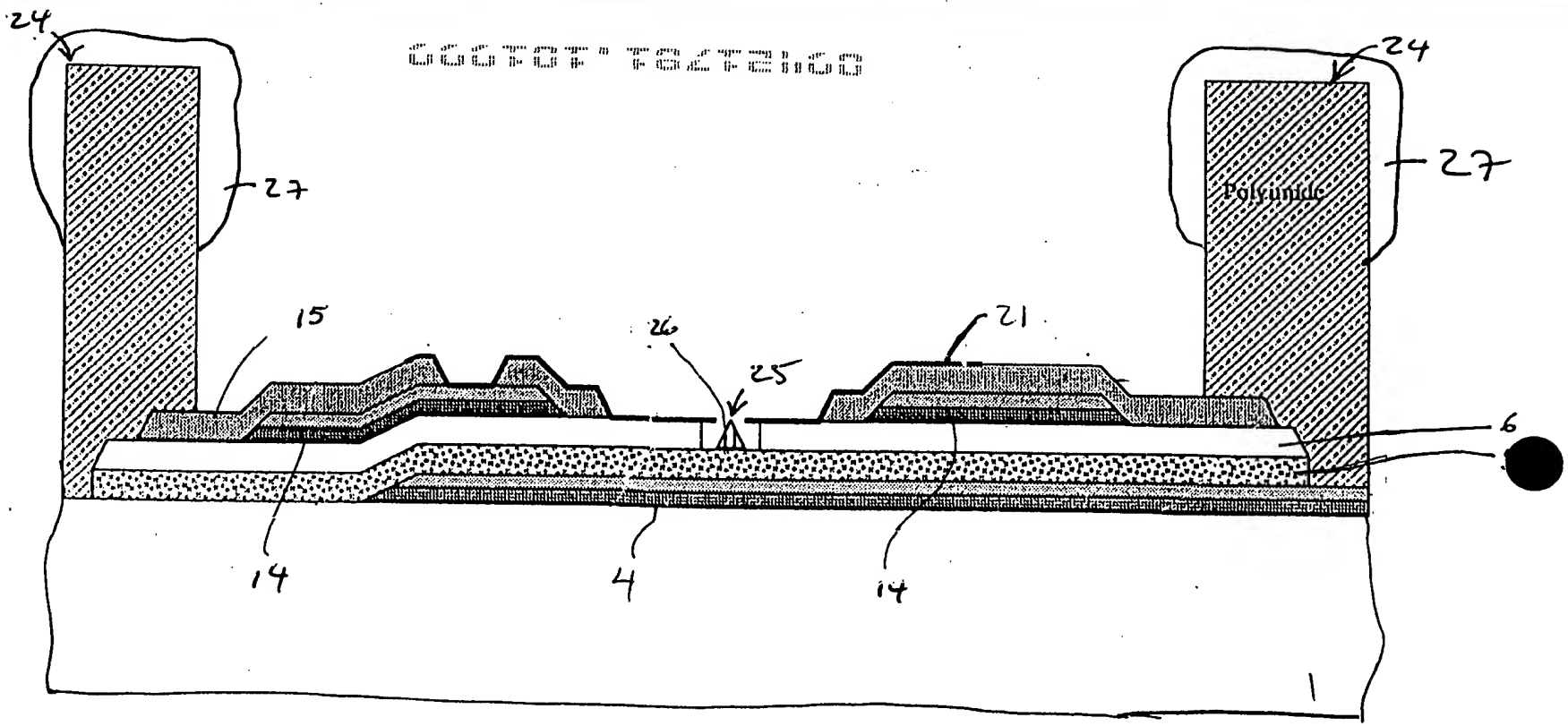


FIG. 14A

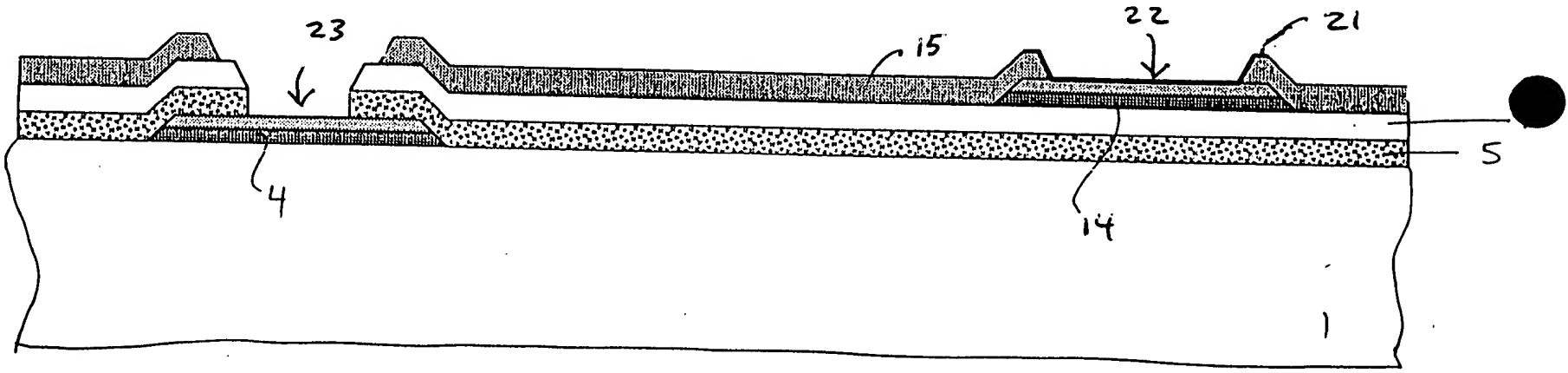


FIG. 14B

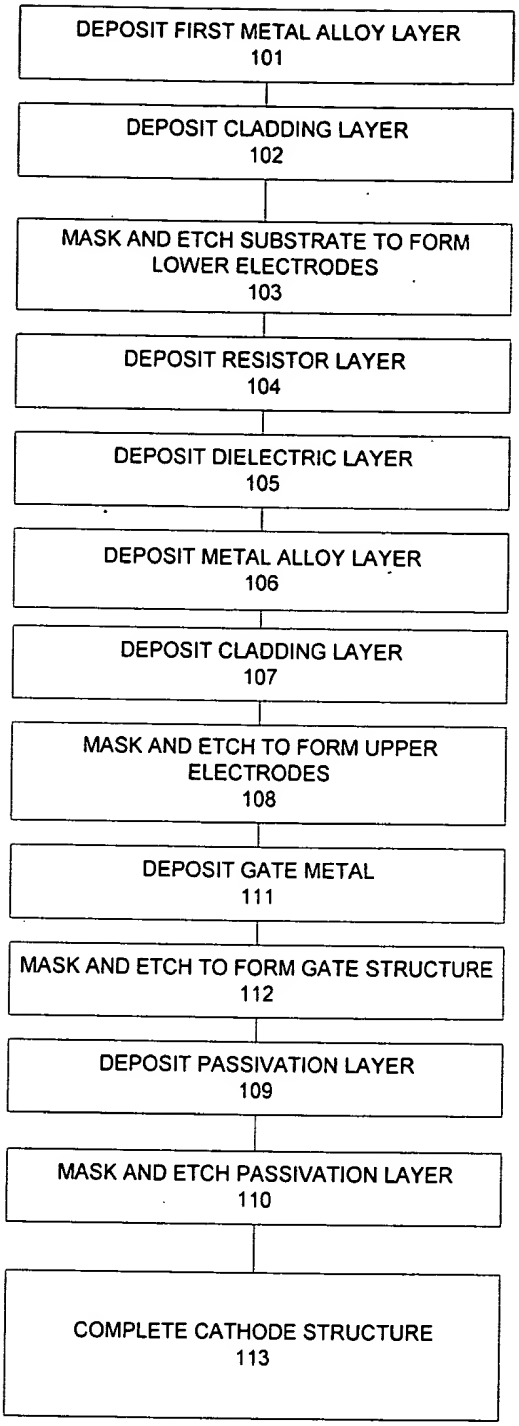

DEPOSIT FIRST METAL ALLOY LAYER
101
DEPOSIT CLADDING LAYER
102
MASK AND ETCH SUBSTRATE TO FORM LOWER ELECTRODES
103
DEPOSIT RESISTOR LAYER
104
DEPOSIT DIELECTRIC LAYER
105
DEPOSIT METAL ALLOY LAYER
106
DEPOSIT CLADDING LAYER
107
MASK AND ETCH TO FORM UPPER ELECTRODES
108
DEPOSIT GATE METAL
111
MASK AND ETCH TO FORM GATE STRUCTURE
112
DEPOSIT PASSIVATION LAYER
109
MASK AND ETCH PASSIVATION LAYER
110
COMPLETE CATHODE STRUCTURE
113

FIG. 15

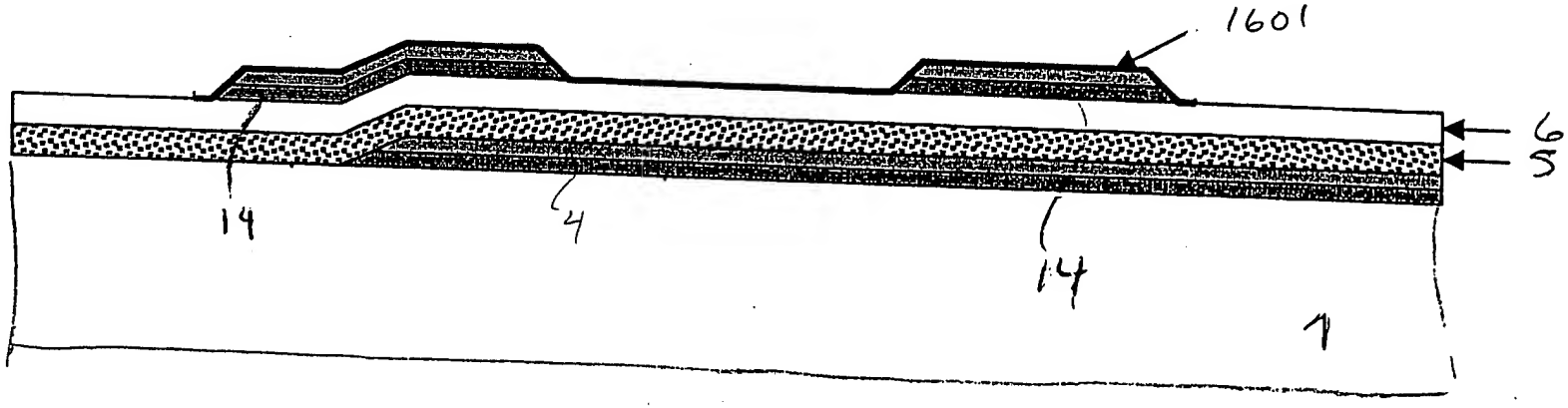


FIG. 16A

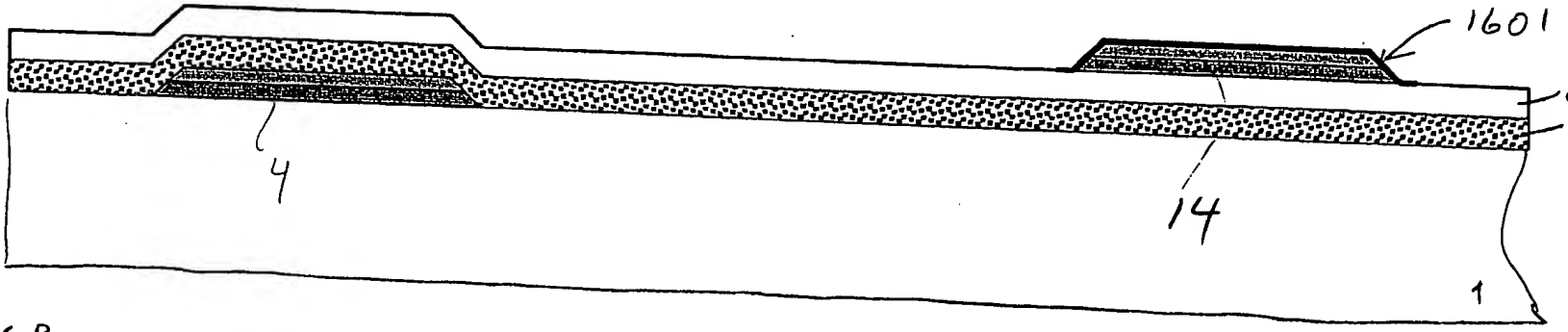


FIG. 16B

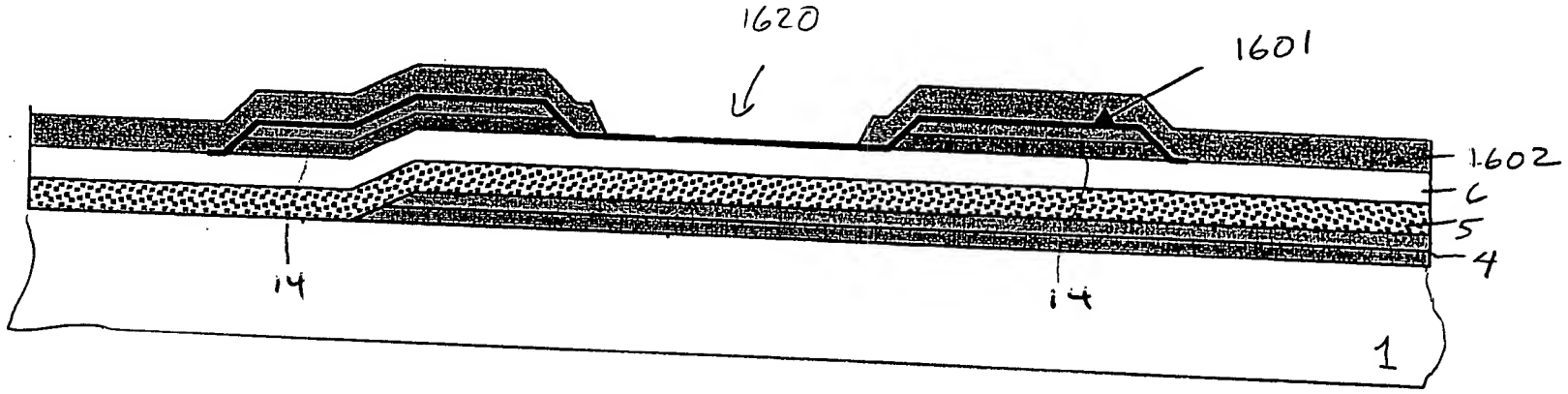


FIG. 16C

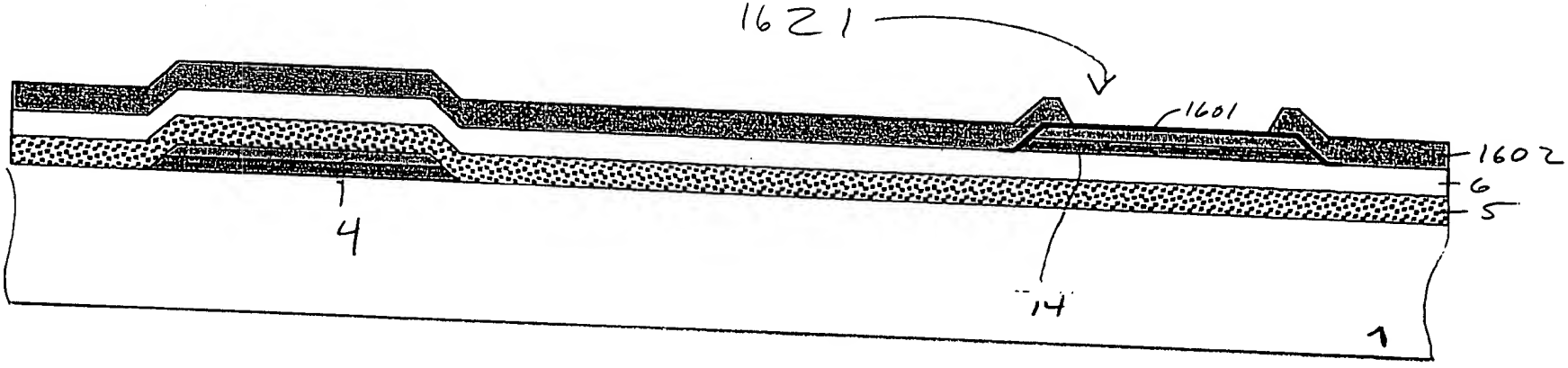


FIG. 16D

FIG. 16E

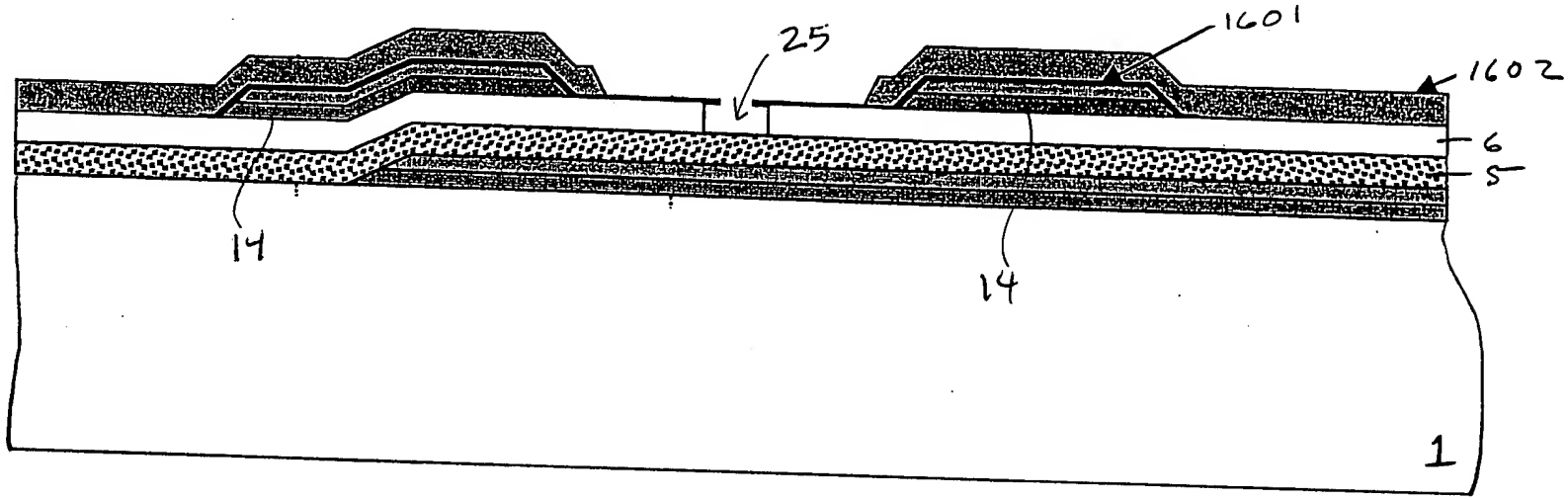


FIG. 16F

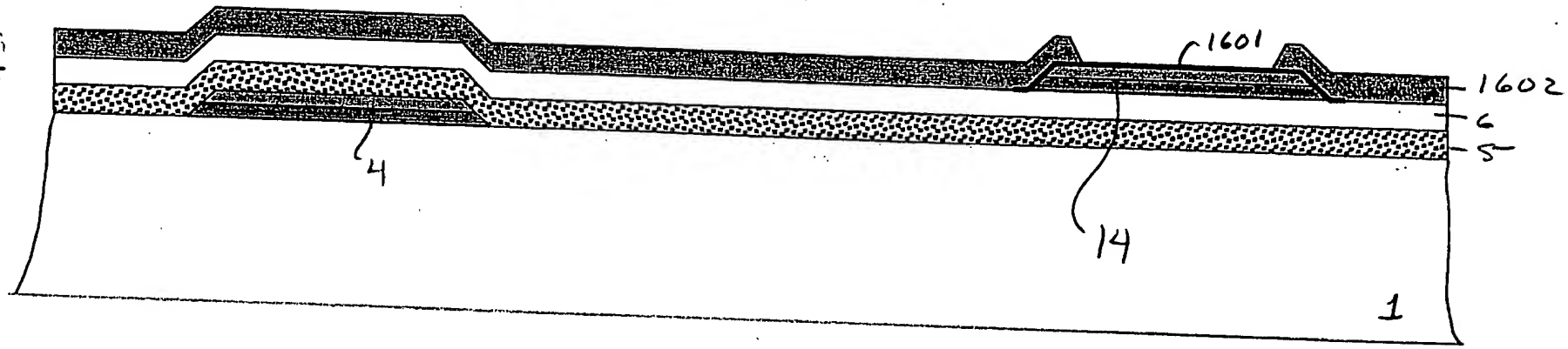


FIG 16G

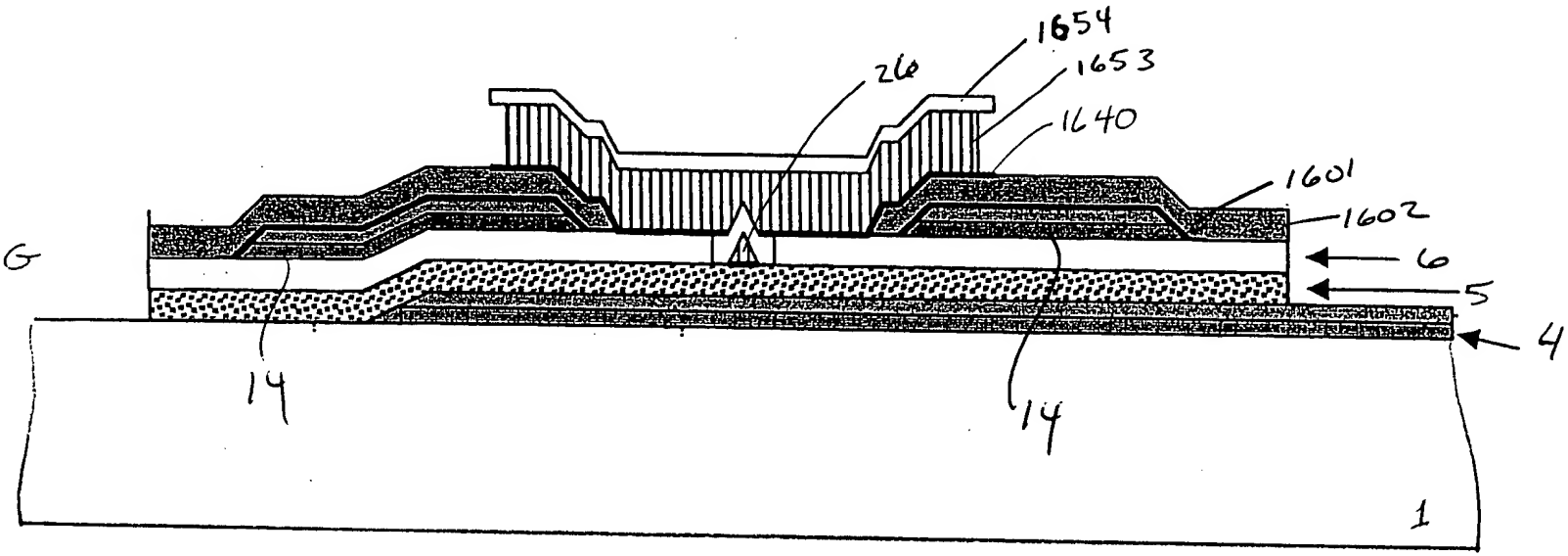
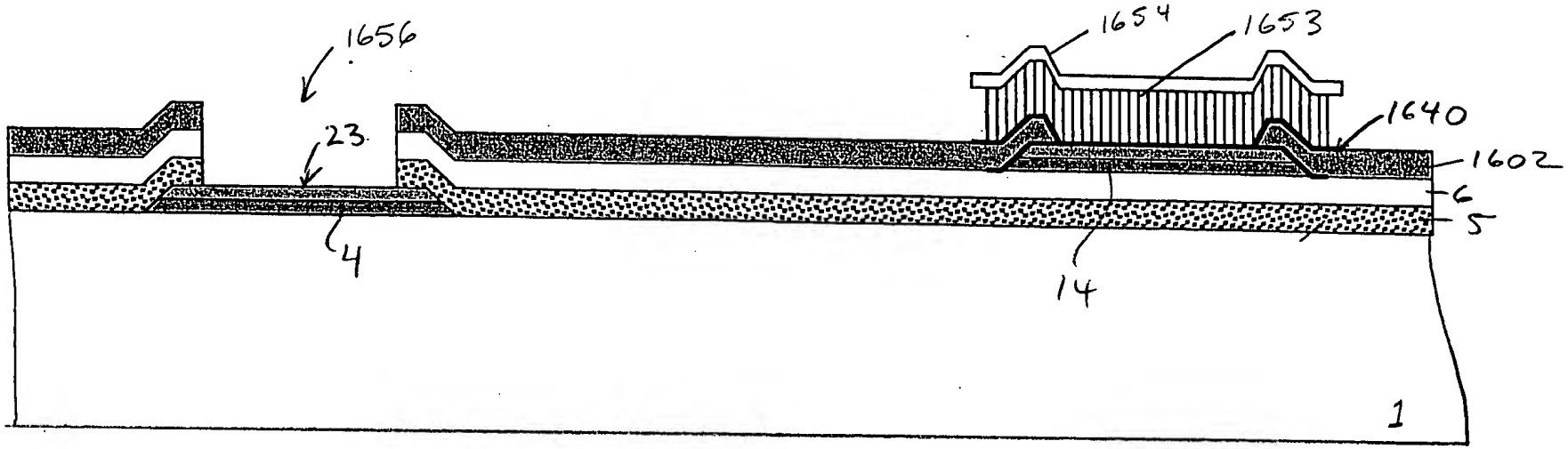


FIG 16H



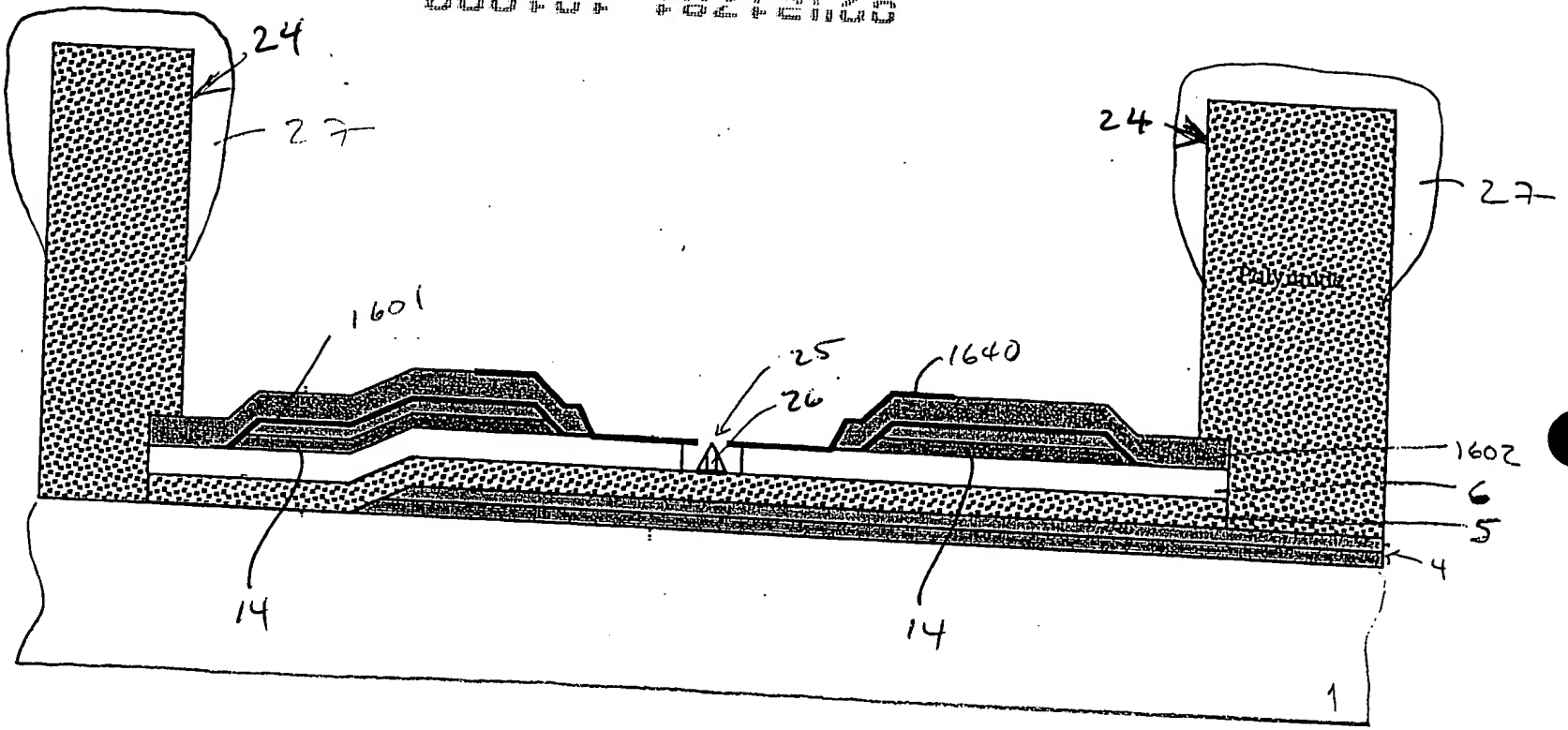


FIG 16 I

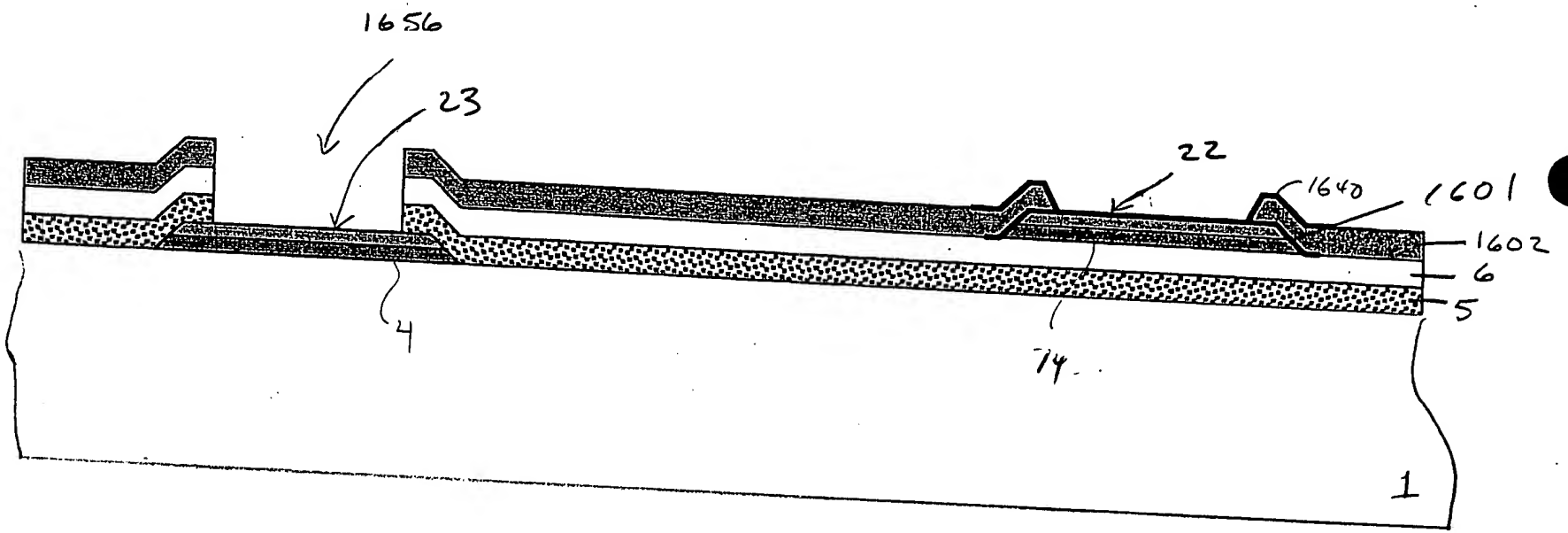


FIG 16 J

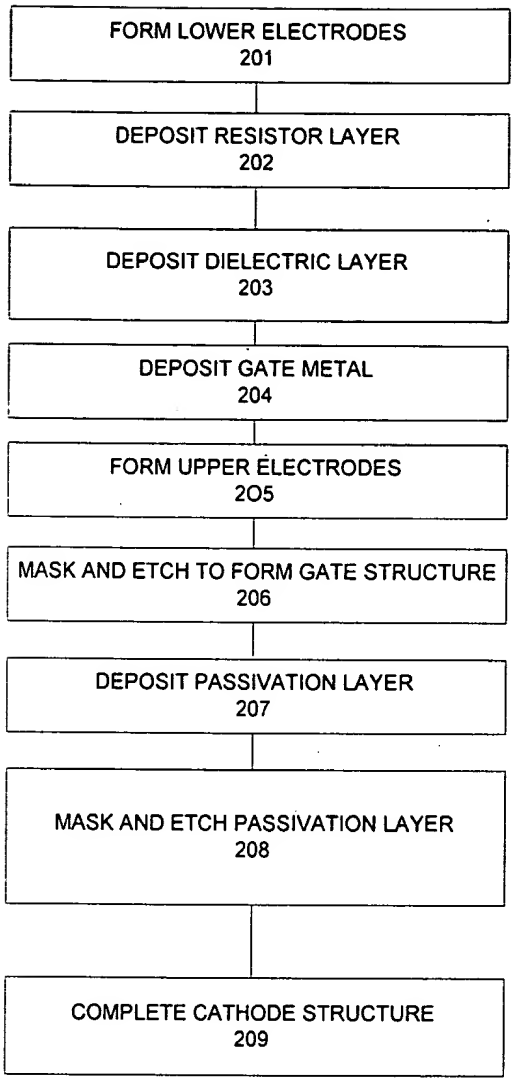

FORM LOWER ELECTRODES
201
DEPOSIT RESISTOR LAYER
202
DEPOSIT DIELECTRIC LAYER
203
DEPOSIT GATE METAL
204
FORM UPPER ELECTRODES
2O5
MASK AND ETCH TO FORM GATE STRUCTURE
206
DEPOSIT PASSIVATION LAYER
207
MASK AND ETCH PASSIVATION LAYER
208
COMPLETE CATHODE STRUCTURE
209

FIG. 17

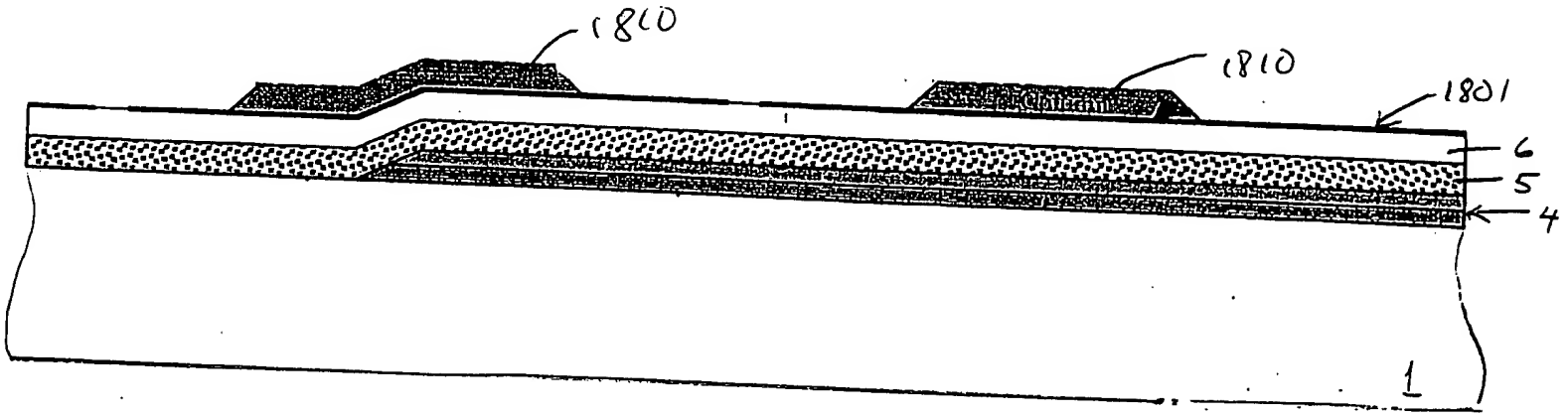


FIG 18A

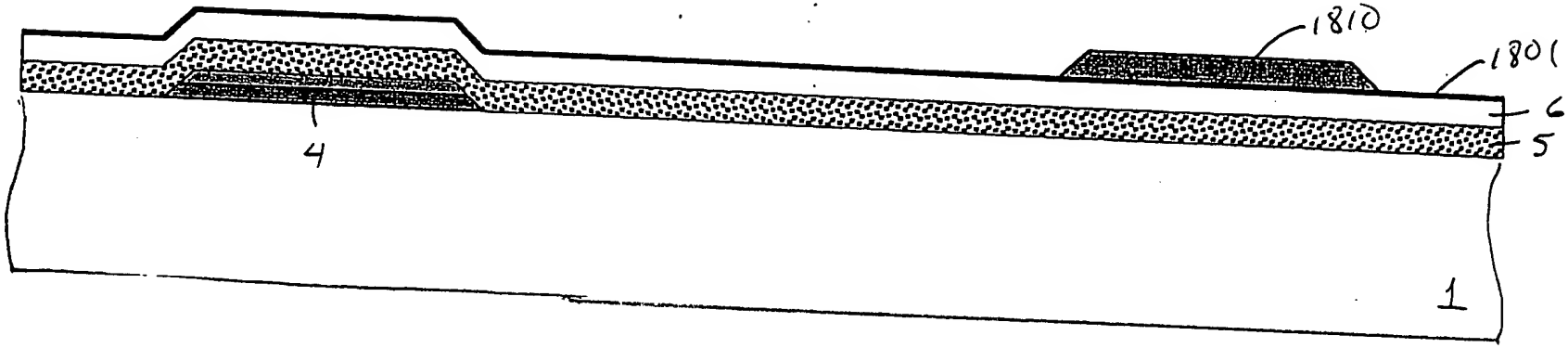


FIG 18B

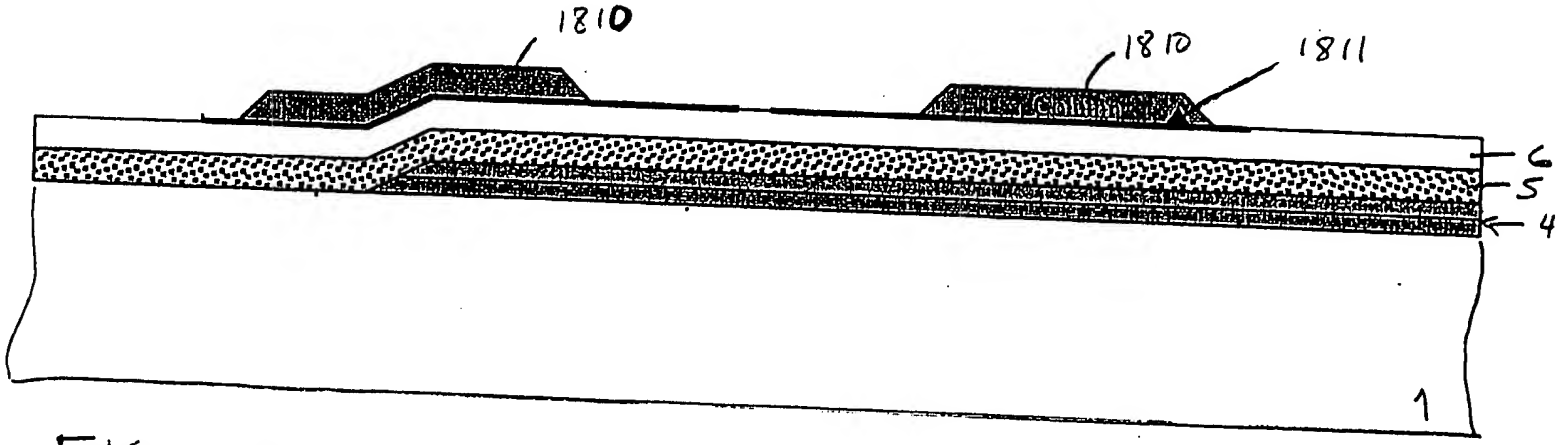


FIG. 18C

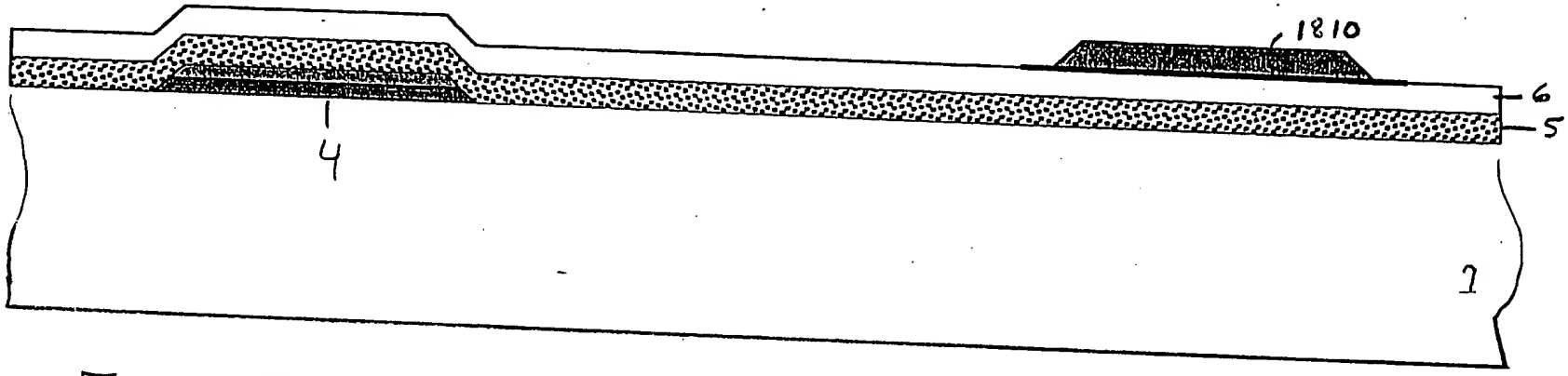
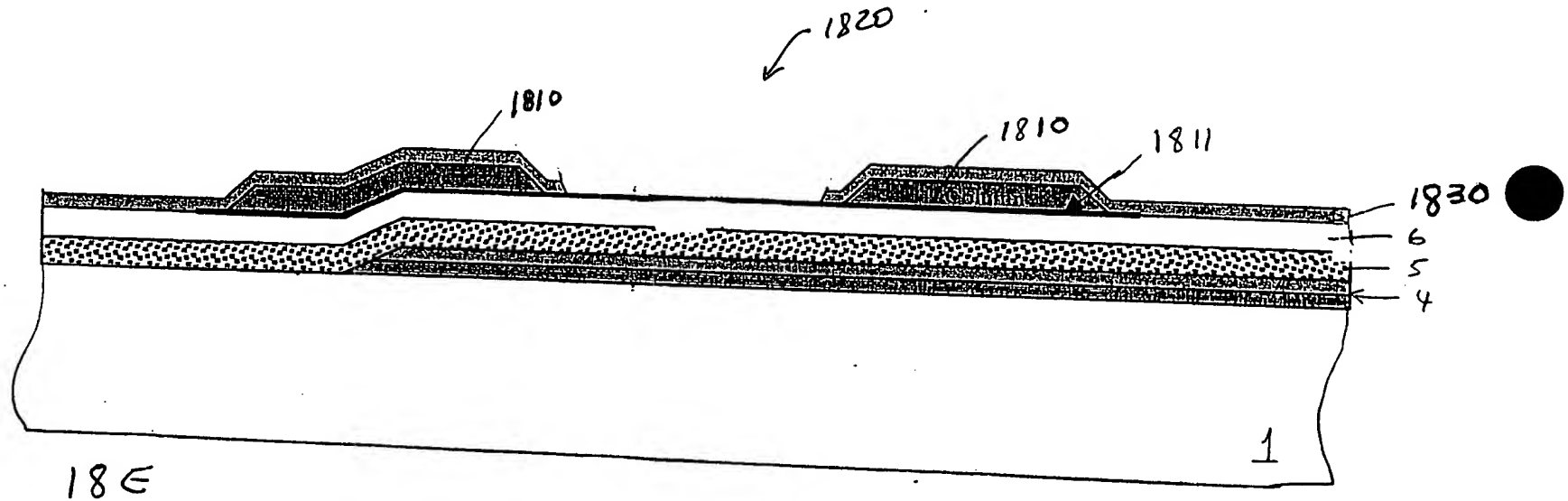


FIG. 18D.



18E

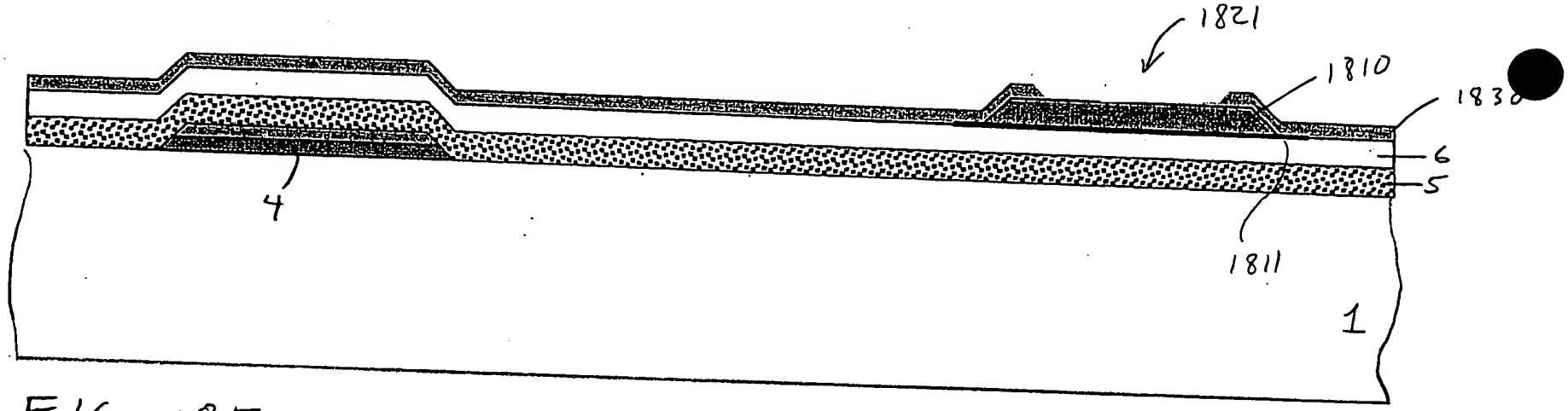


FIG. 18F

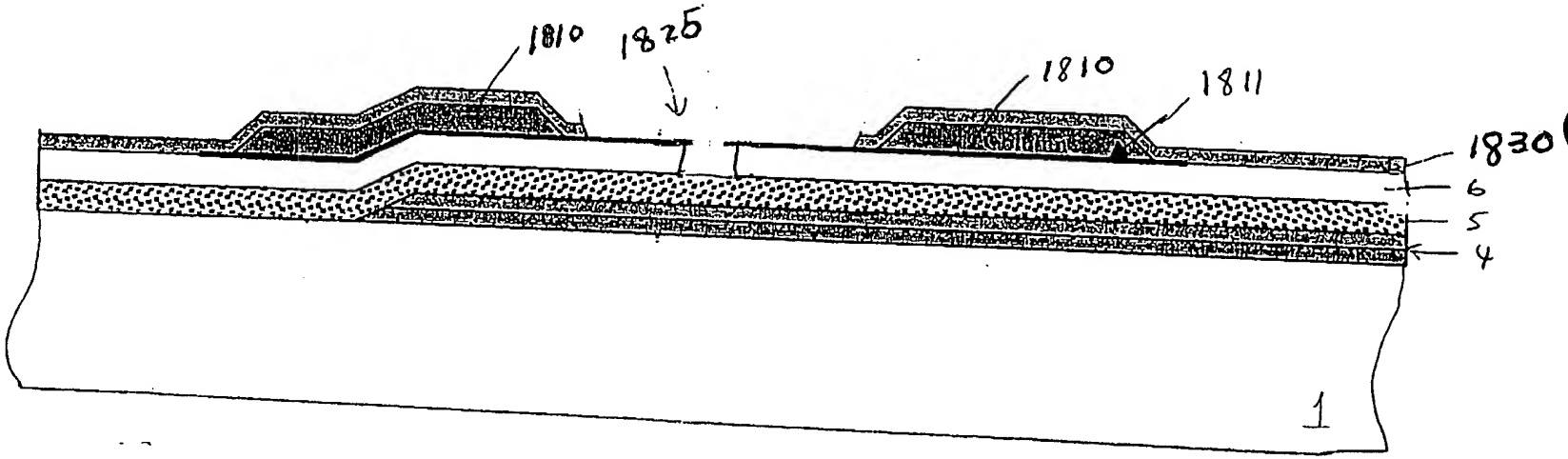


FIG 18G

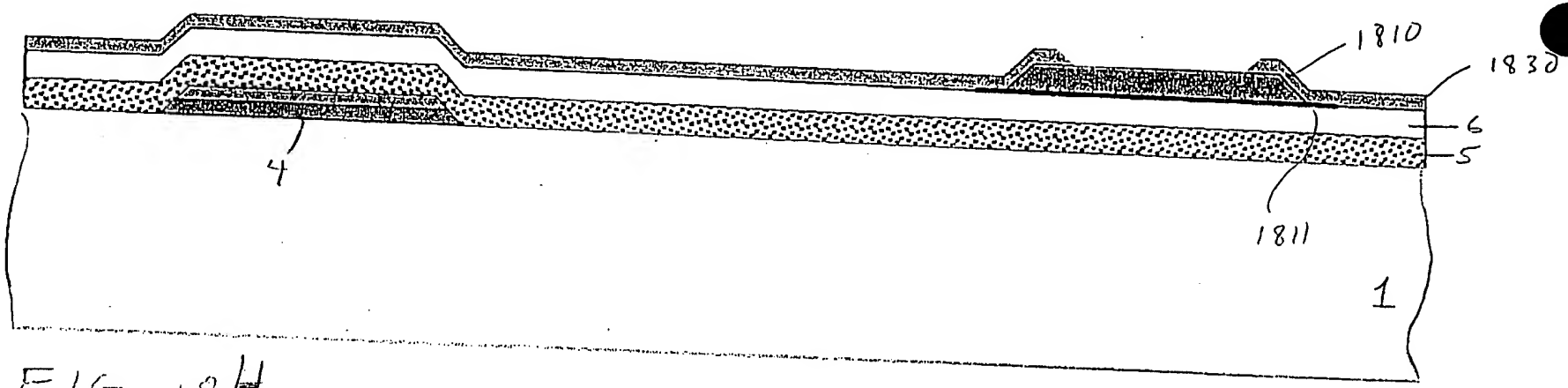


FIG. 18H

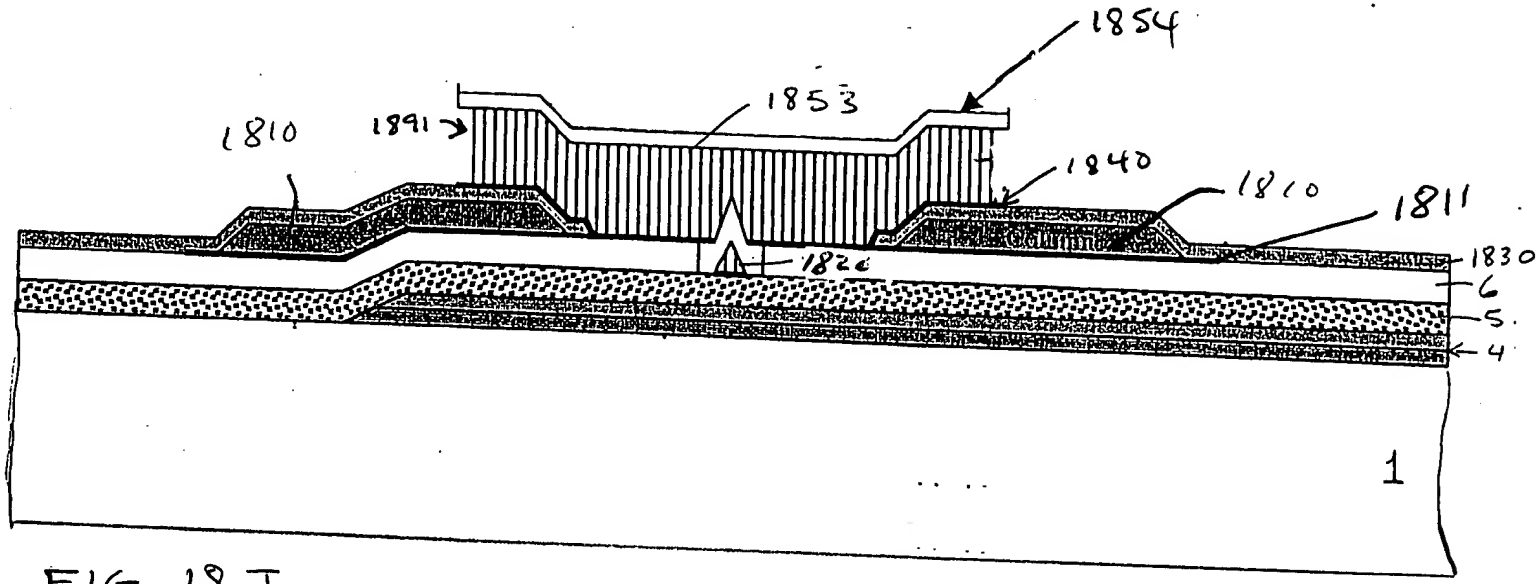


FIG 18 I

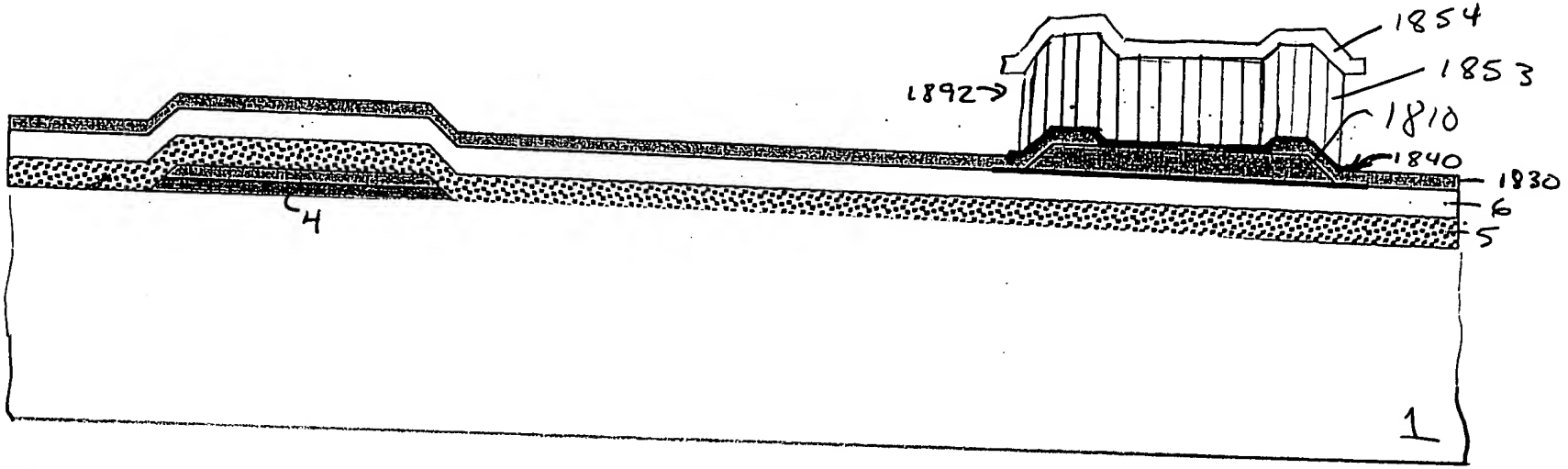


FIG 18 J

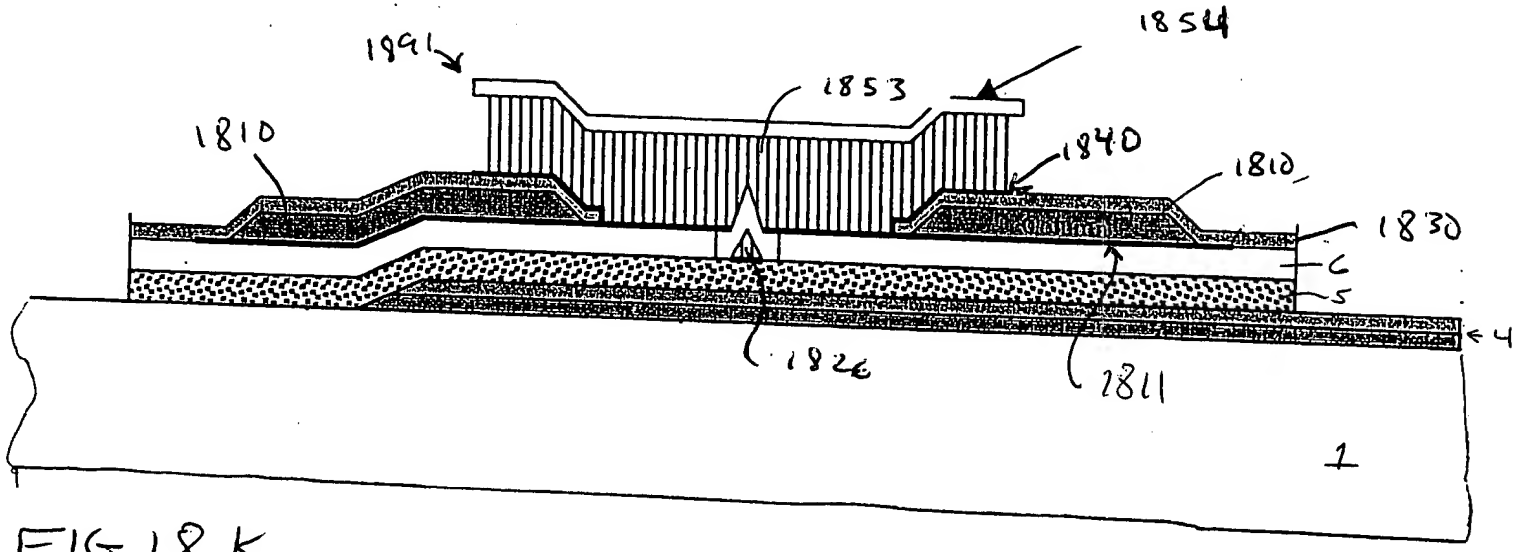


FIG 18 K

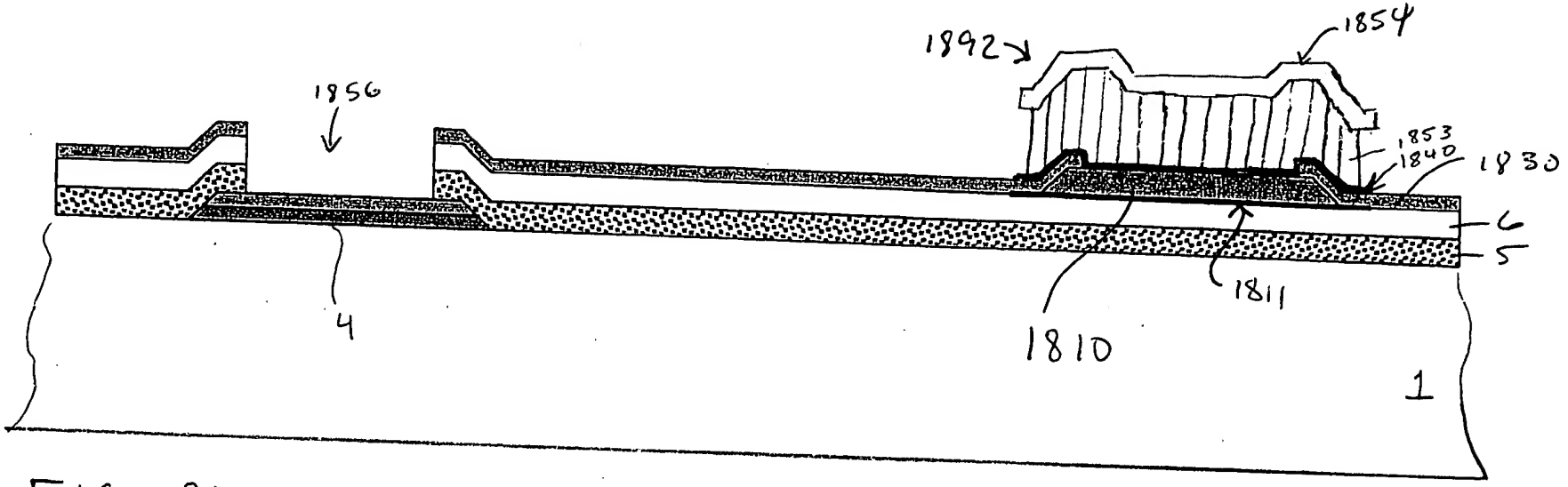


FIG 18L

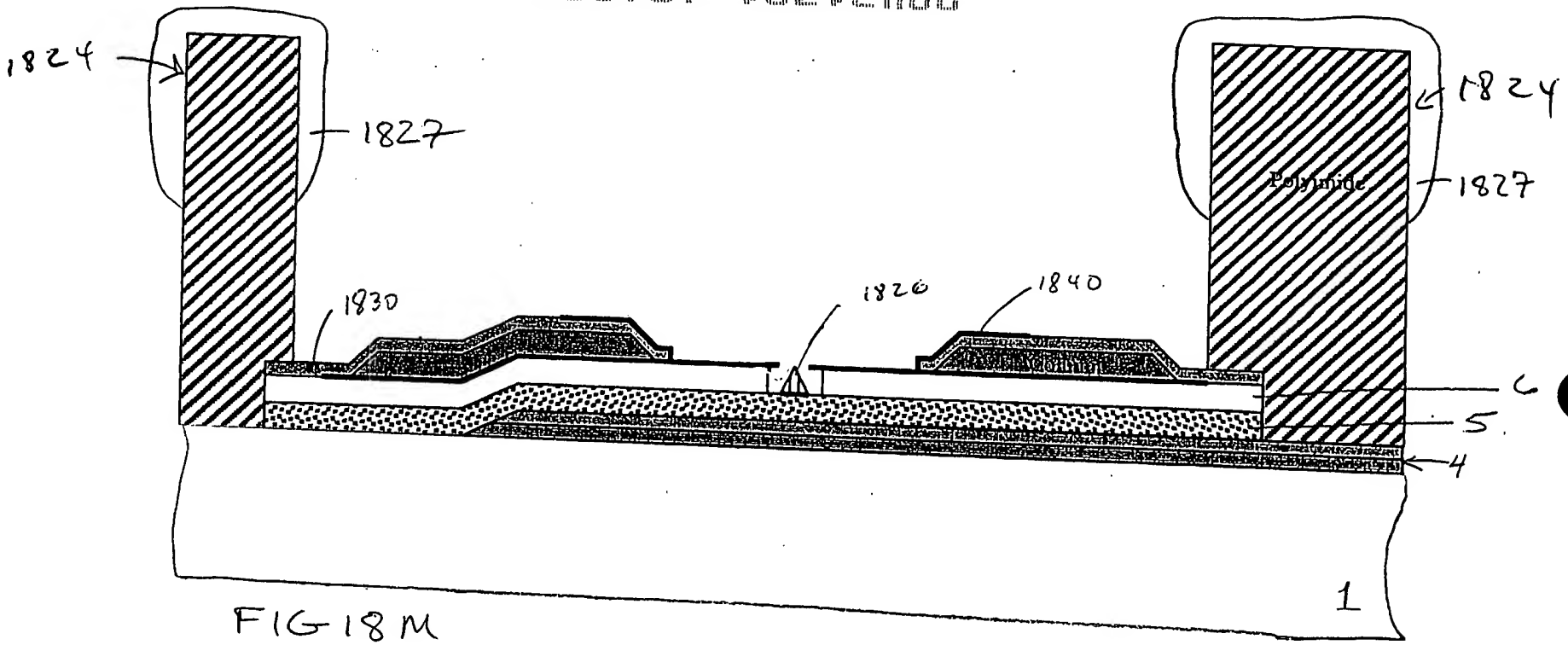


FIG 18M

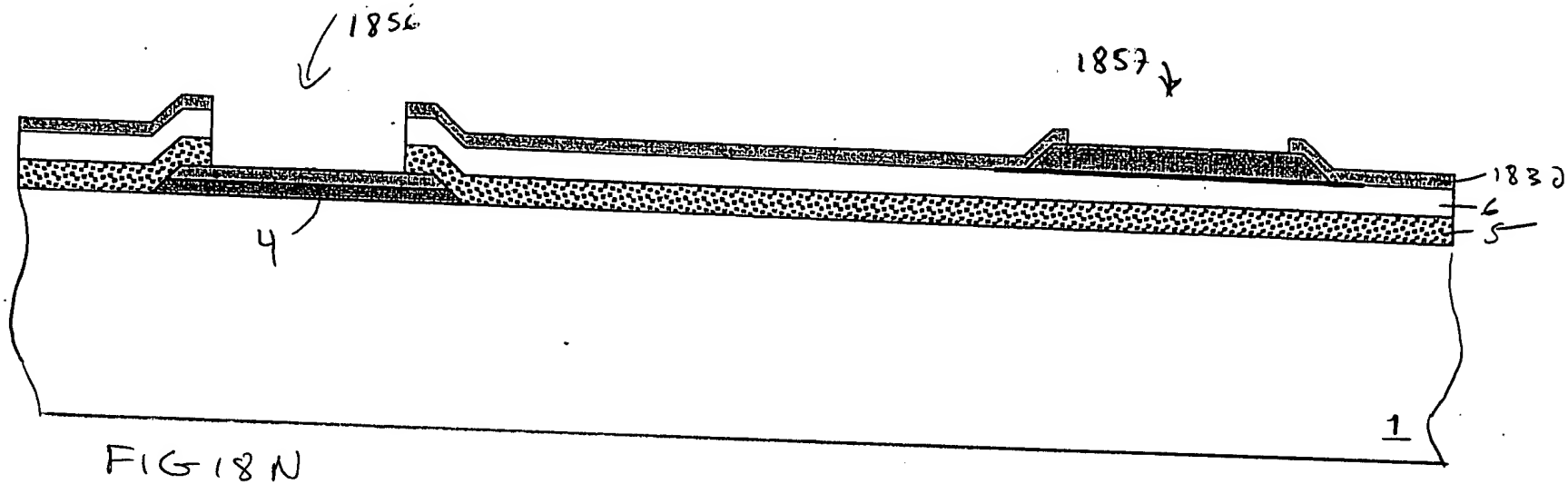


FIG 18N

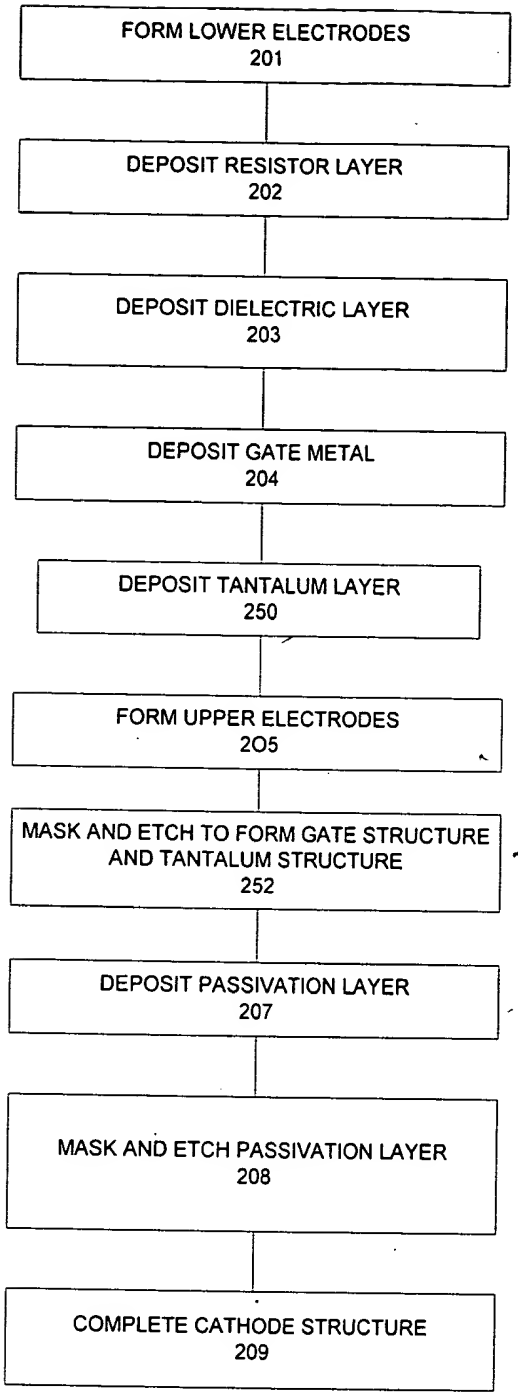

FORM LOWER ELECTRODES
201
DEPOSIT RESISTOR LAYER
202
DEPOSIT DIELECTRIC LAYER
203
DEPOSIT GATE METAL
204
DEPOSIT TANTALUM LAYER
250
FORM UPPER ELECTRODES
2O5
MASK AND ETCH TO FORM GATE STRUCTURE
AND TANTALUM STRUCTURE
252
DEPOSIT PASSIVATION LAYER
207
MASK AND ETCH PASSIVATION LAYER
208
COMPLETE CATHODE STRUCTURE
209

FIG. 19

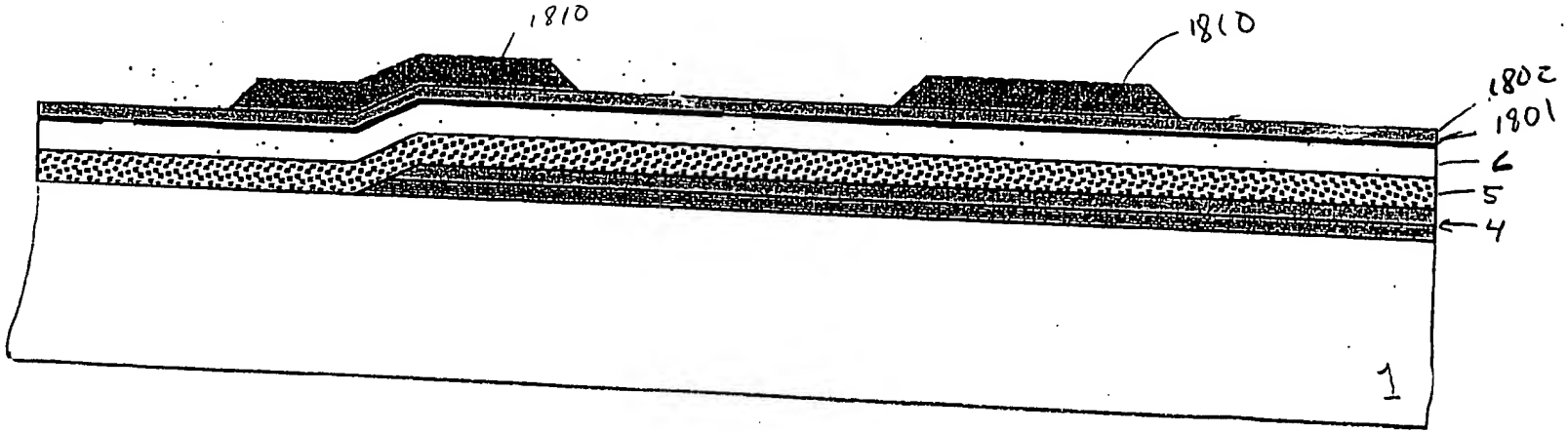


FIG. 20A

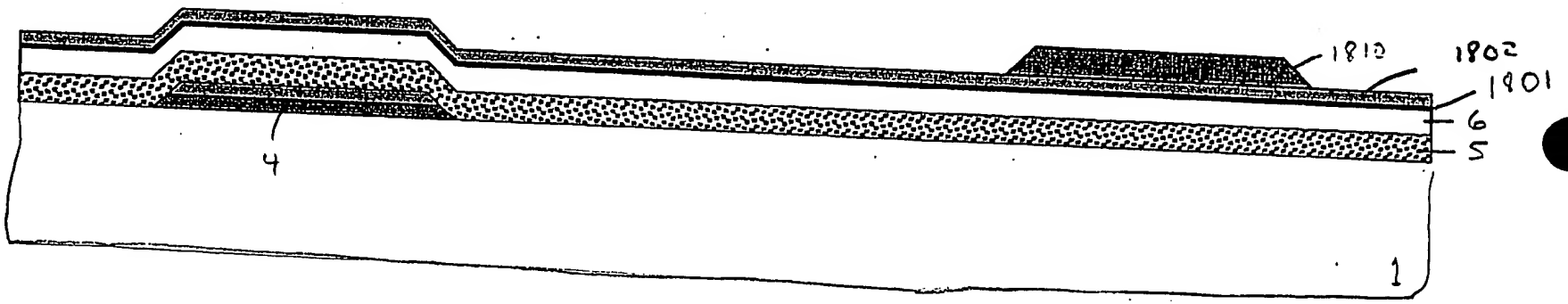


FIG. 20B

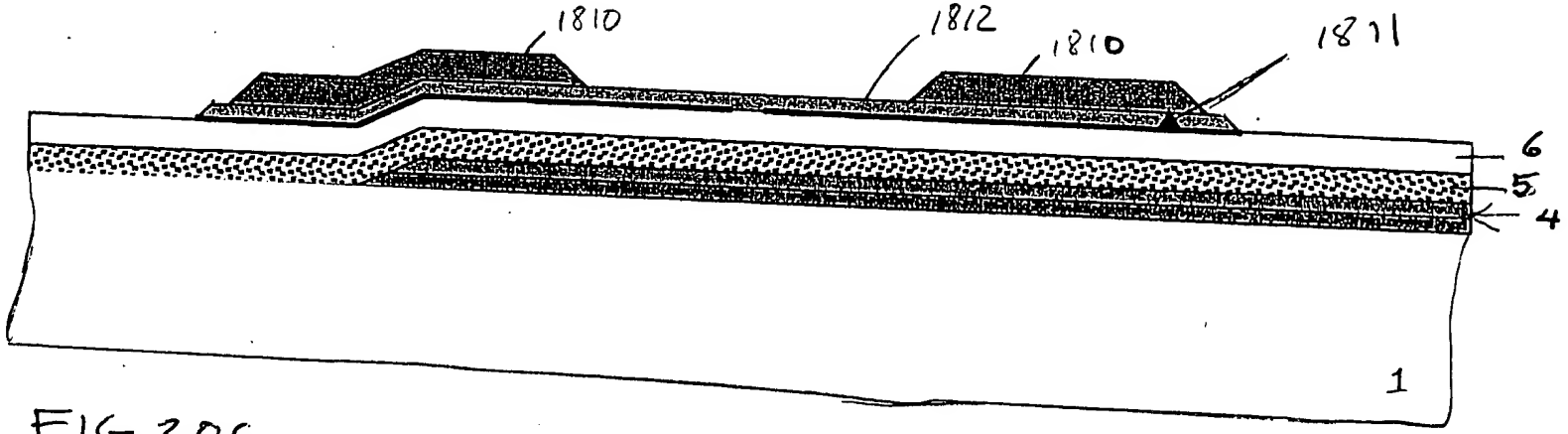


FIG. 20C

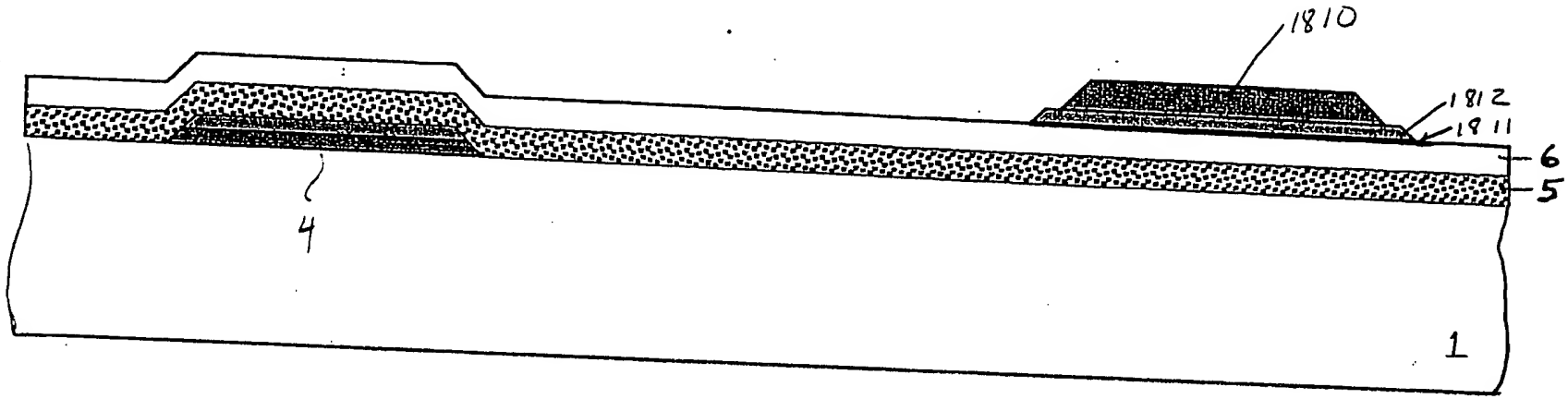


FIG. 20D

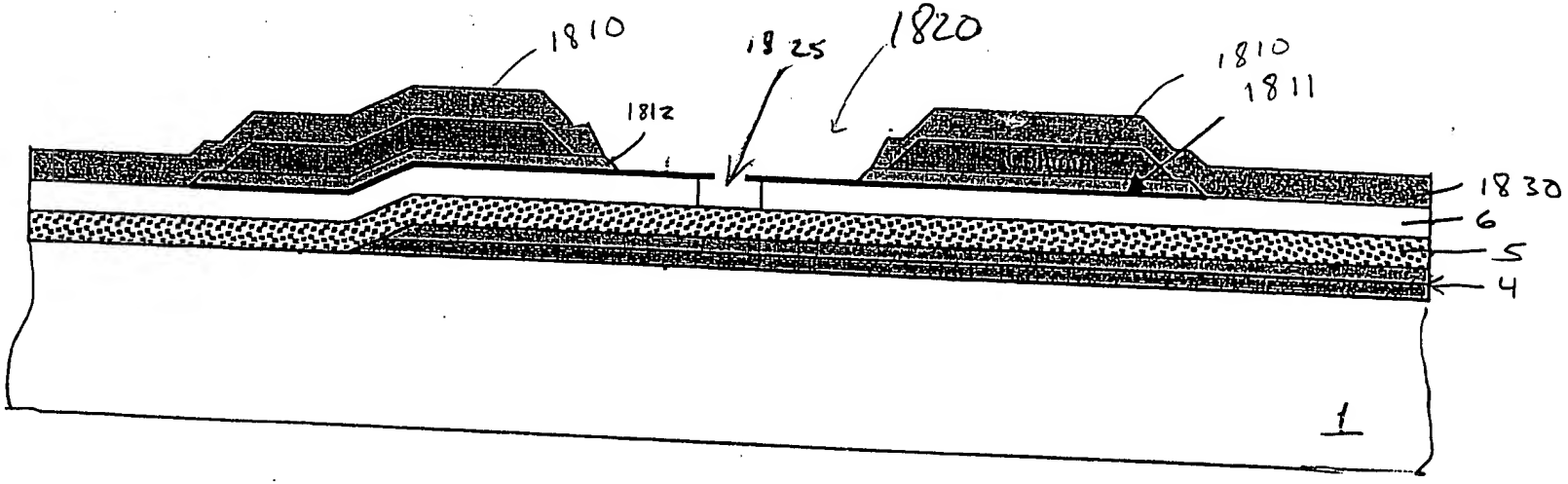


FIG 20E

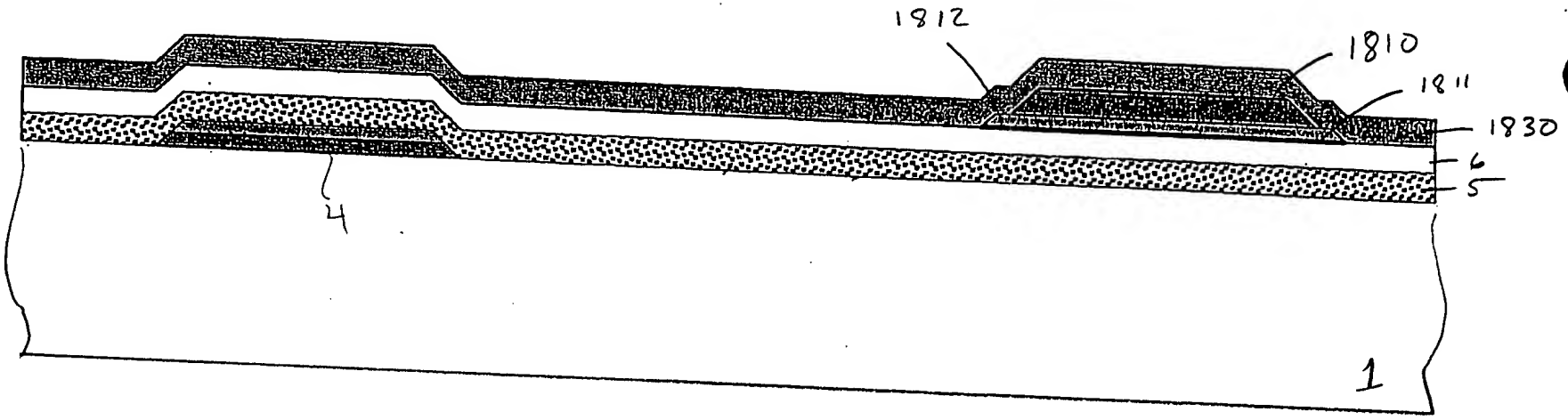


FIG 20F

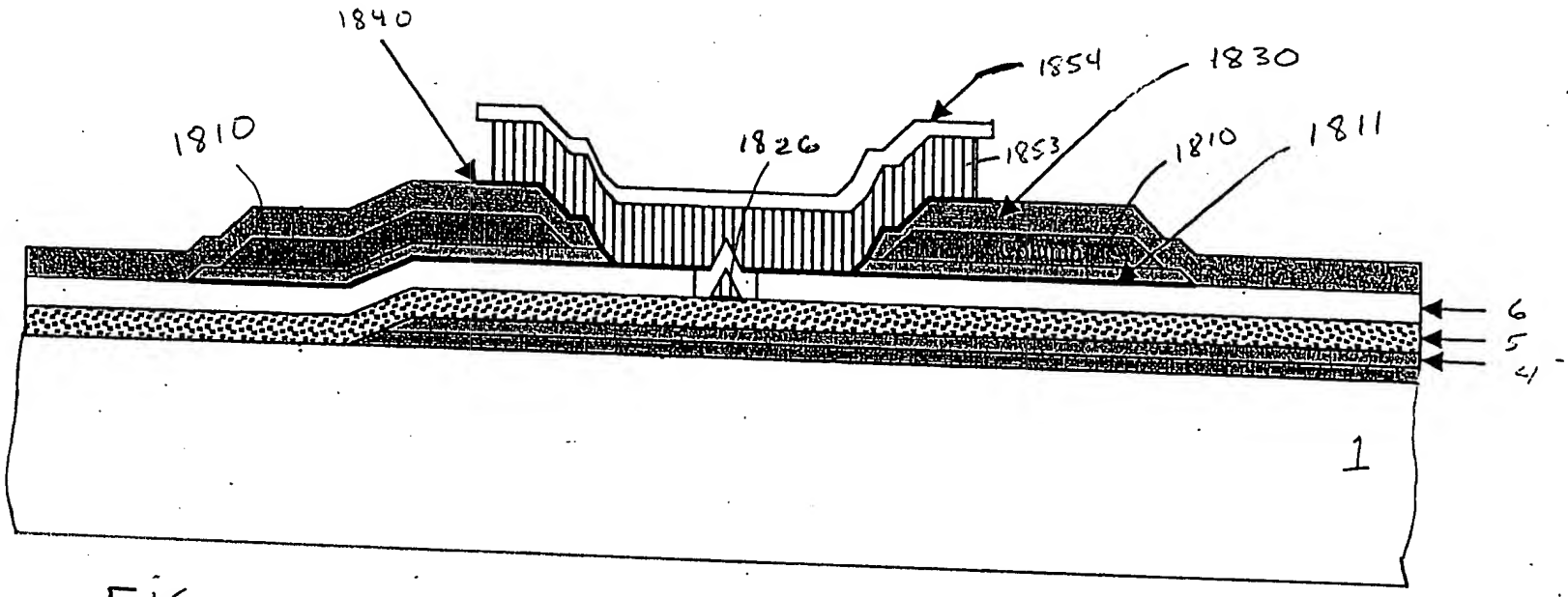


FIG. 20G

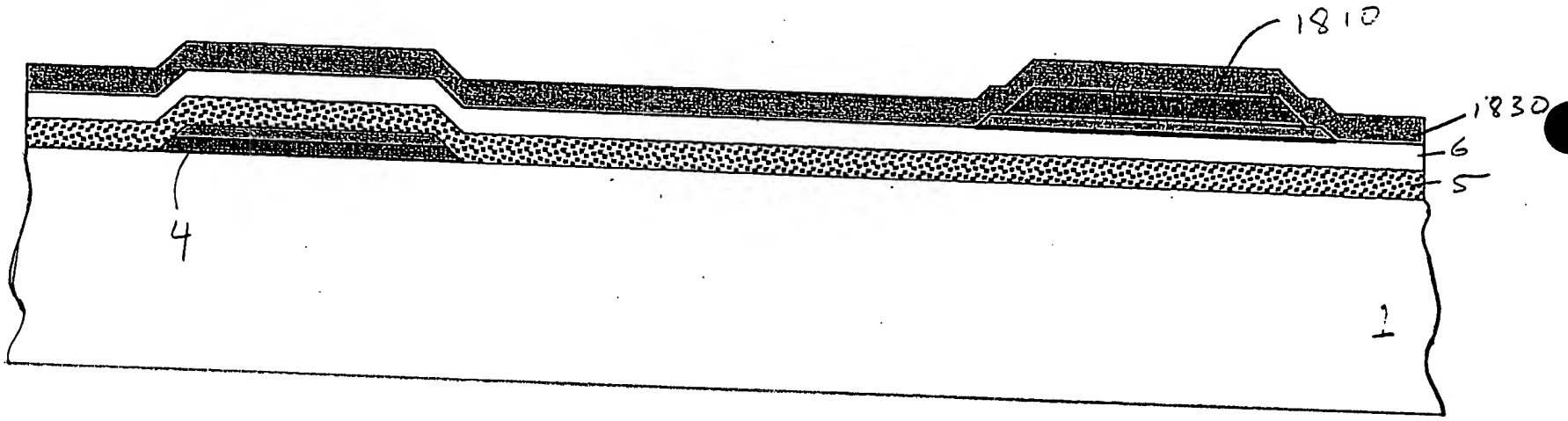


FIG. 20H

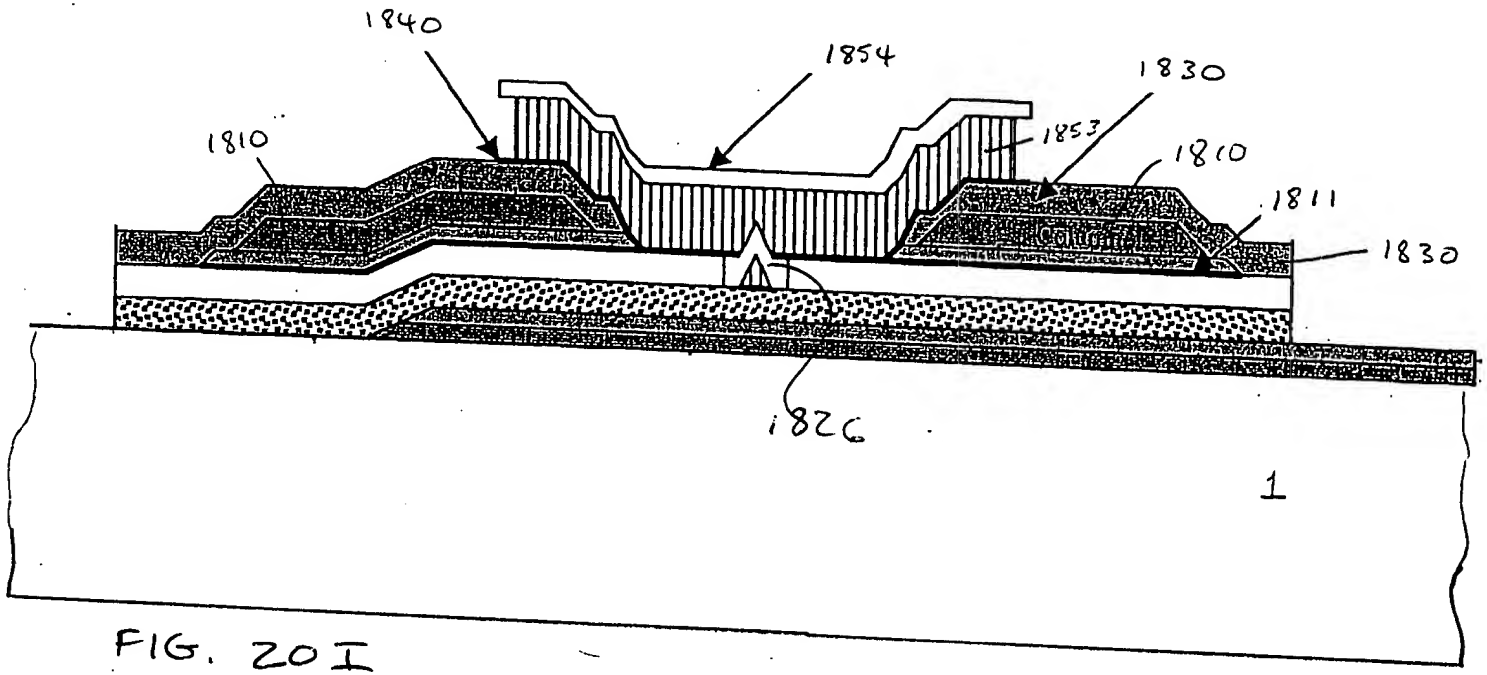


FIG. 20I

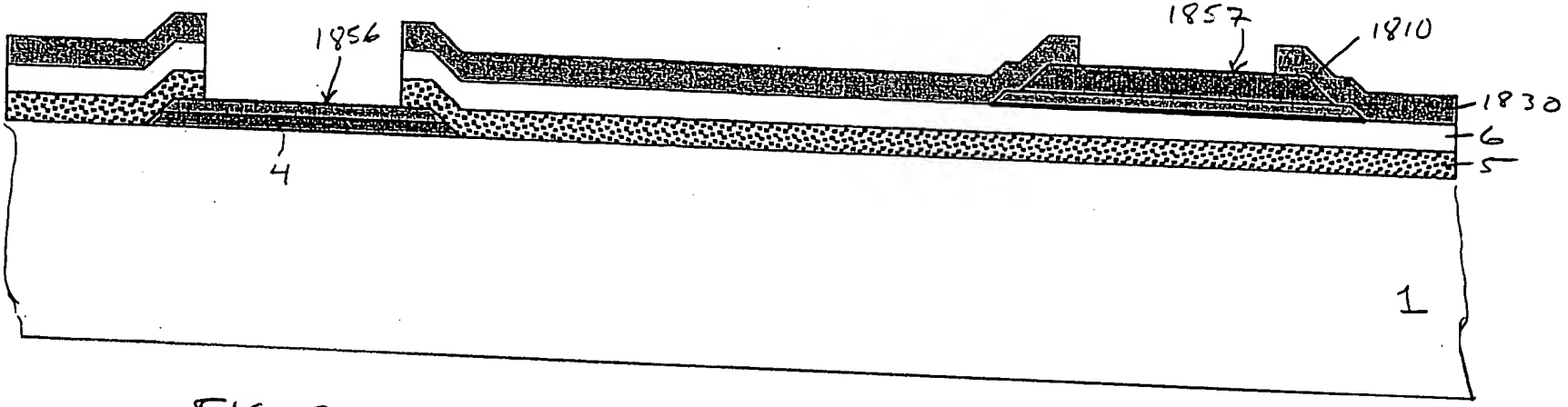


FIG. 20J

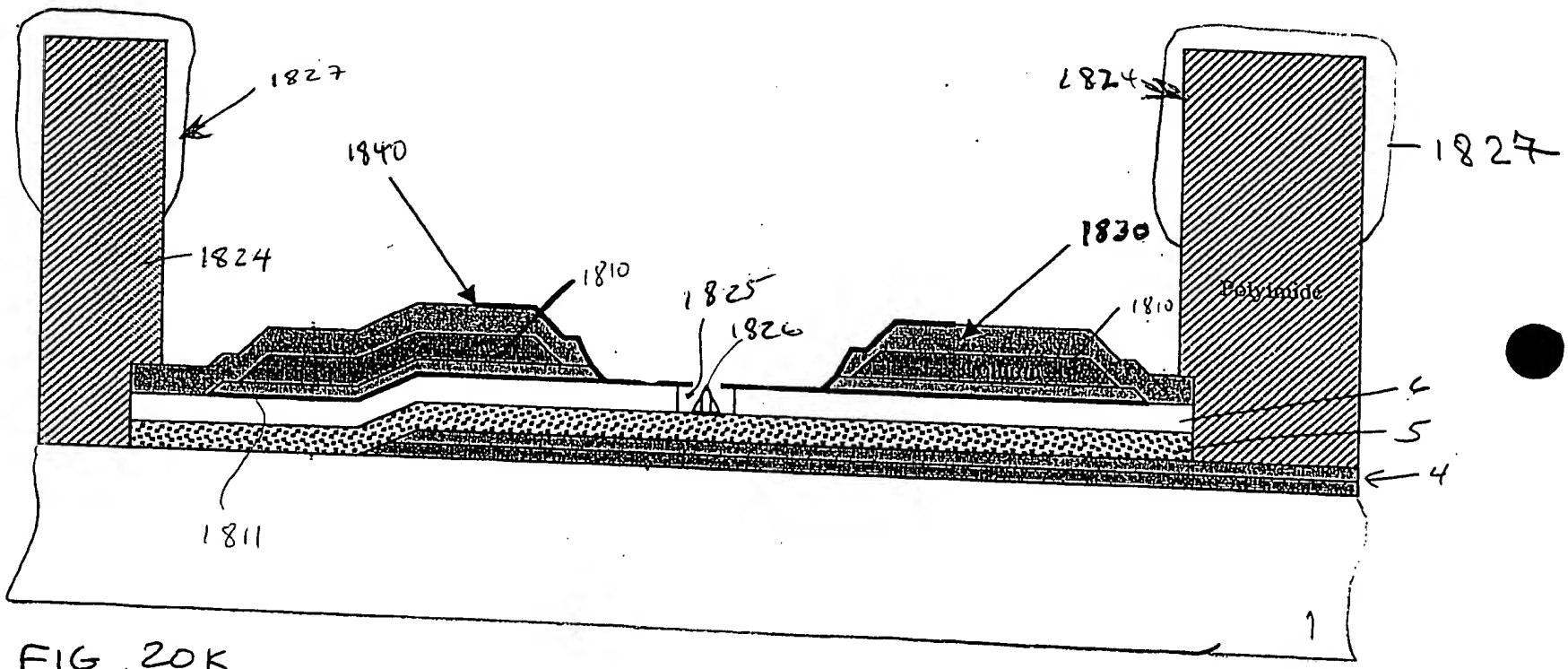


FIG 20K

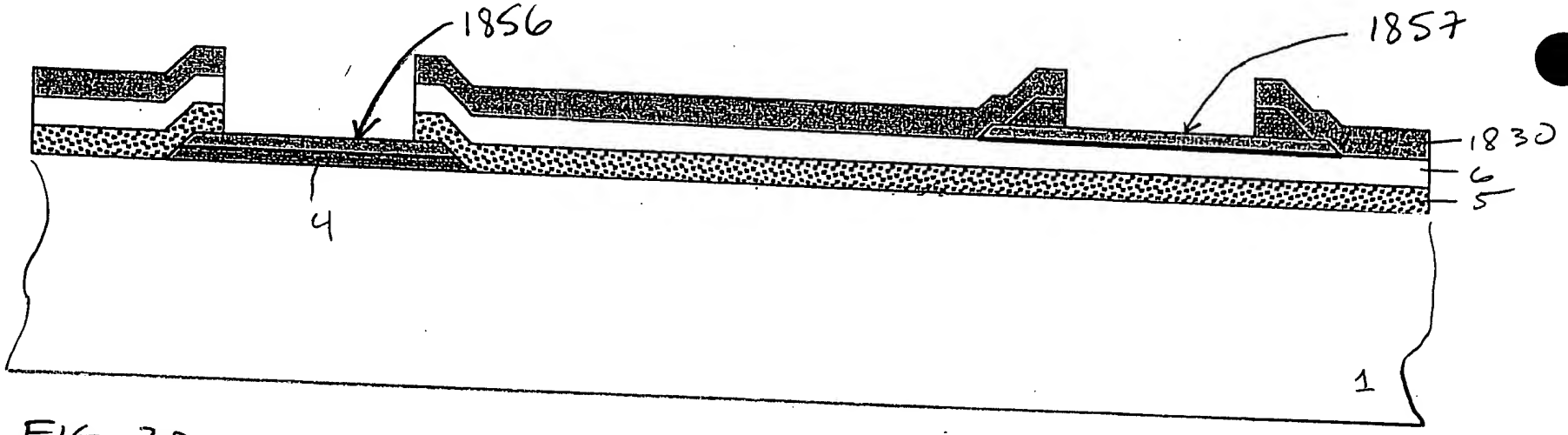


FIG 20L

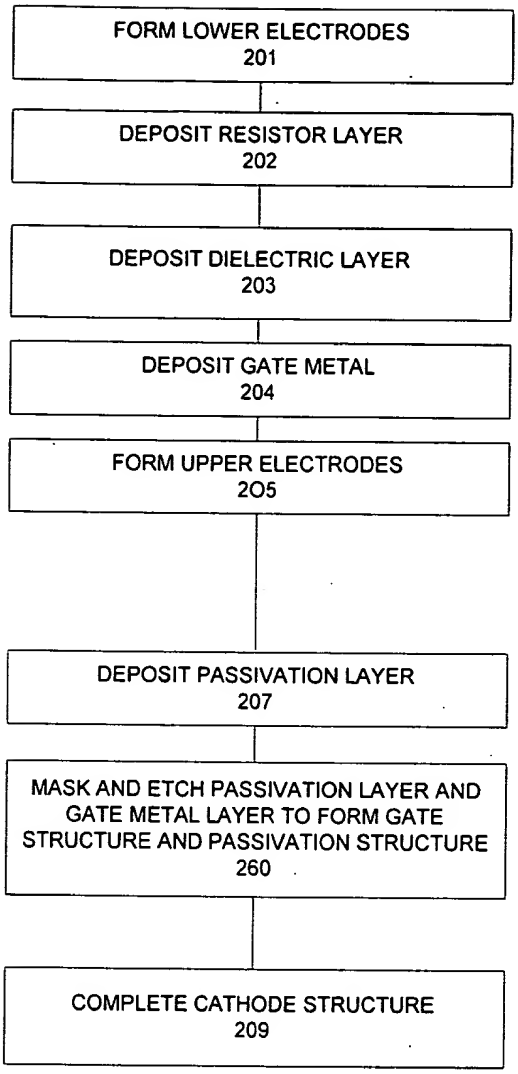

FORM LOWER ELECTRODES
201
DEPOSIT RESISTOR LAYER
202
DEPOSIT DIELECTRIC LAYER
203
DEPOSIT GATE METAL
204
FORM UPPER ELECTRODES
205
DEPOSIT PASSIVATION LAYER
207
MASK AND ETCH PASSIVATION LAYER AND GATE METAL LAYER TO FORM GATE STRUCTURE AND PASSIVATION STRUCTURE
260
COMPLETE CATHODE STRUCTURE
209

FIG. 21

FIG. 22A

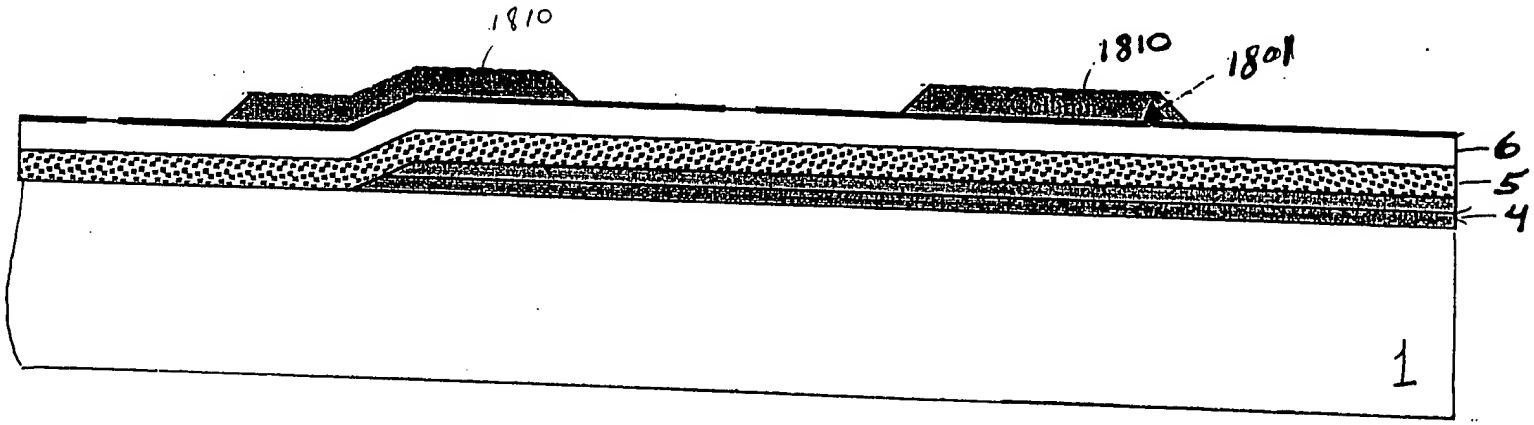
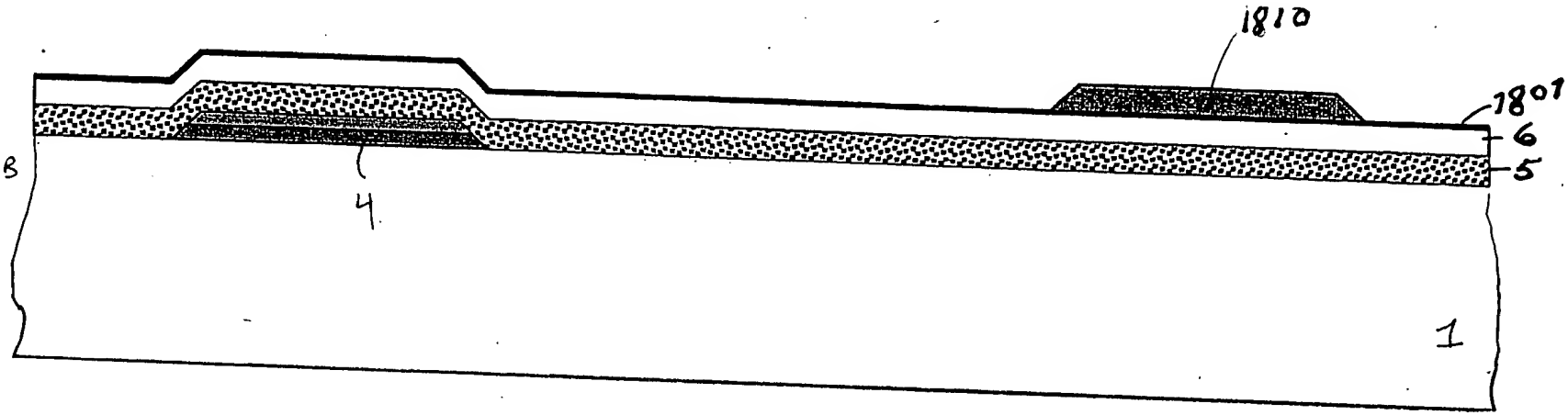


FIG. 22B



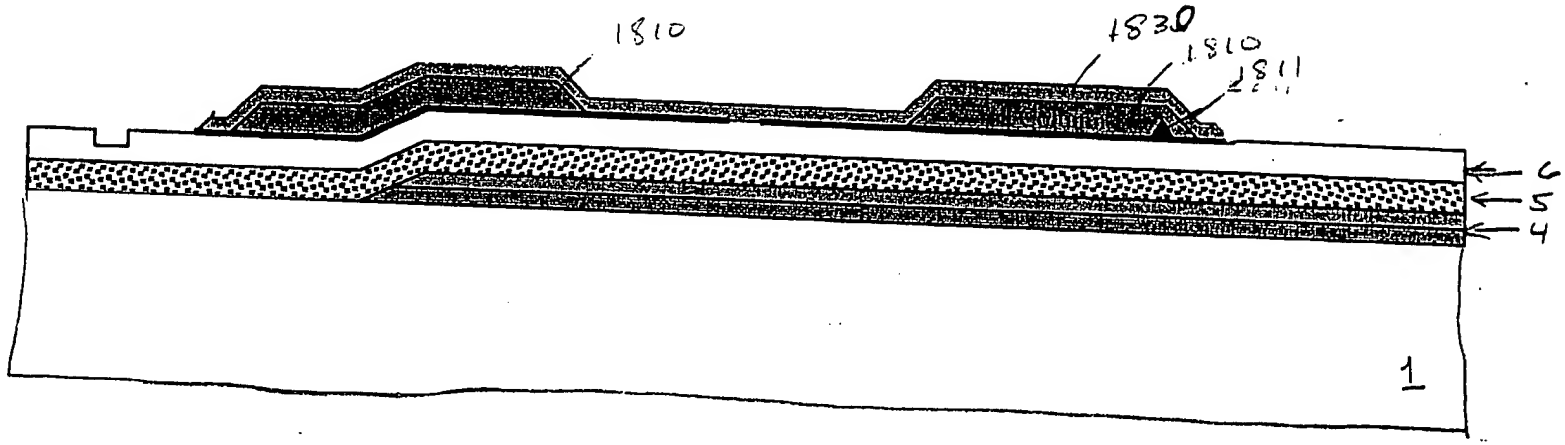


FIG. 22C

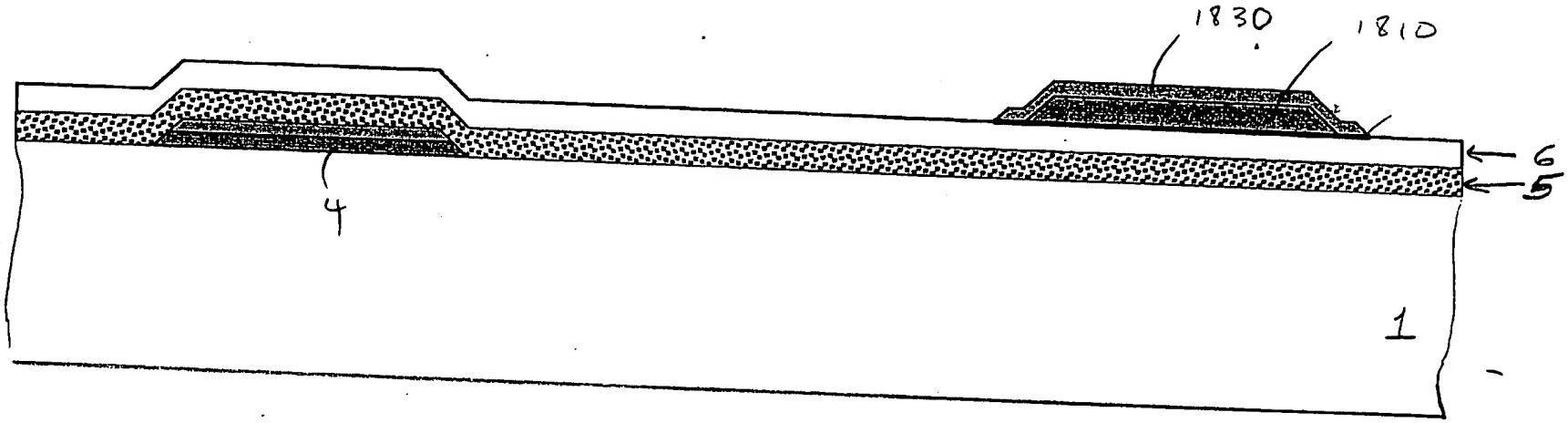


FIG. 22D

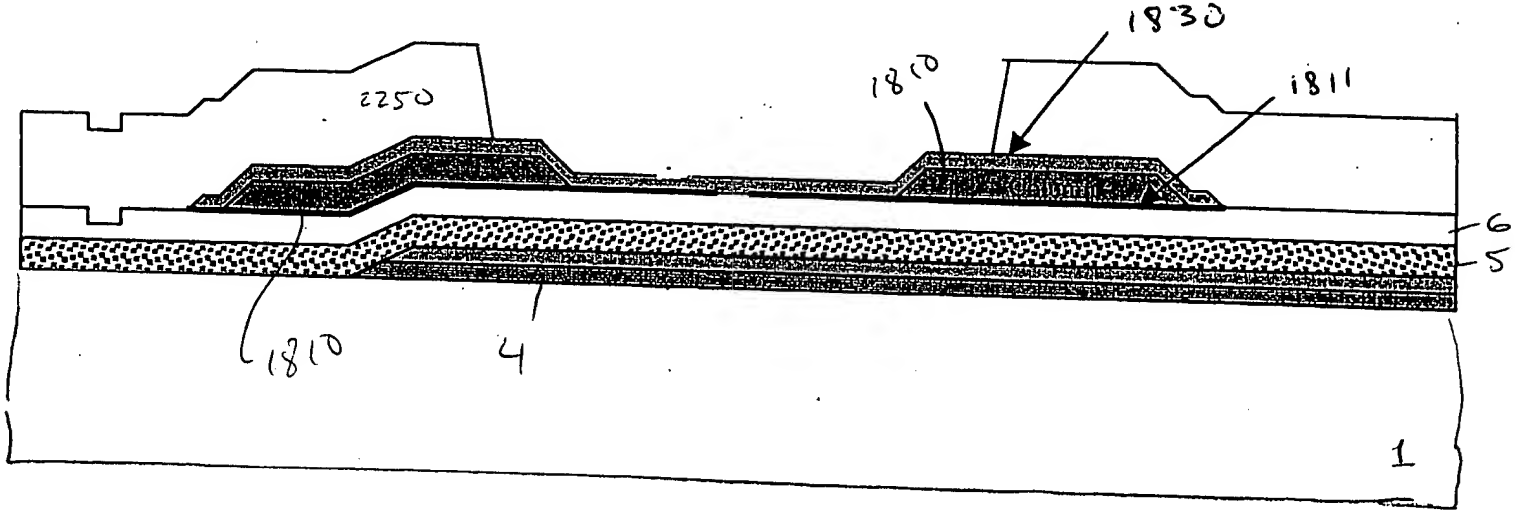


FIG 22E

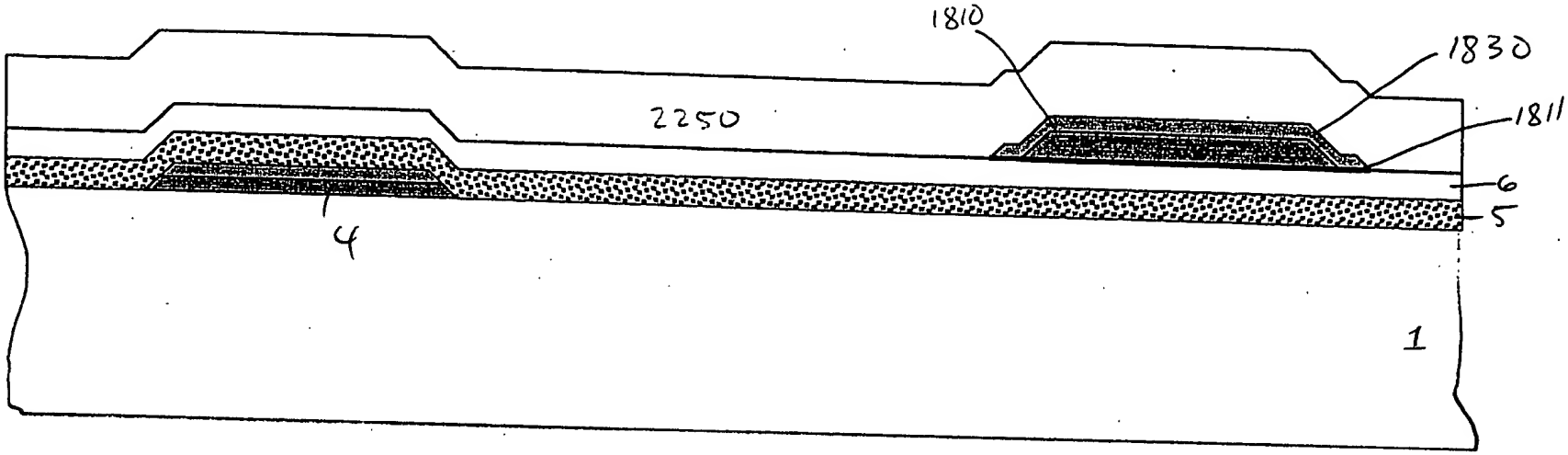


FIG22F

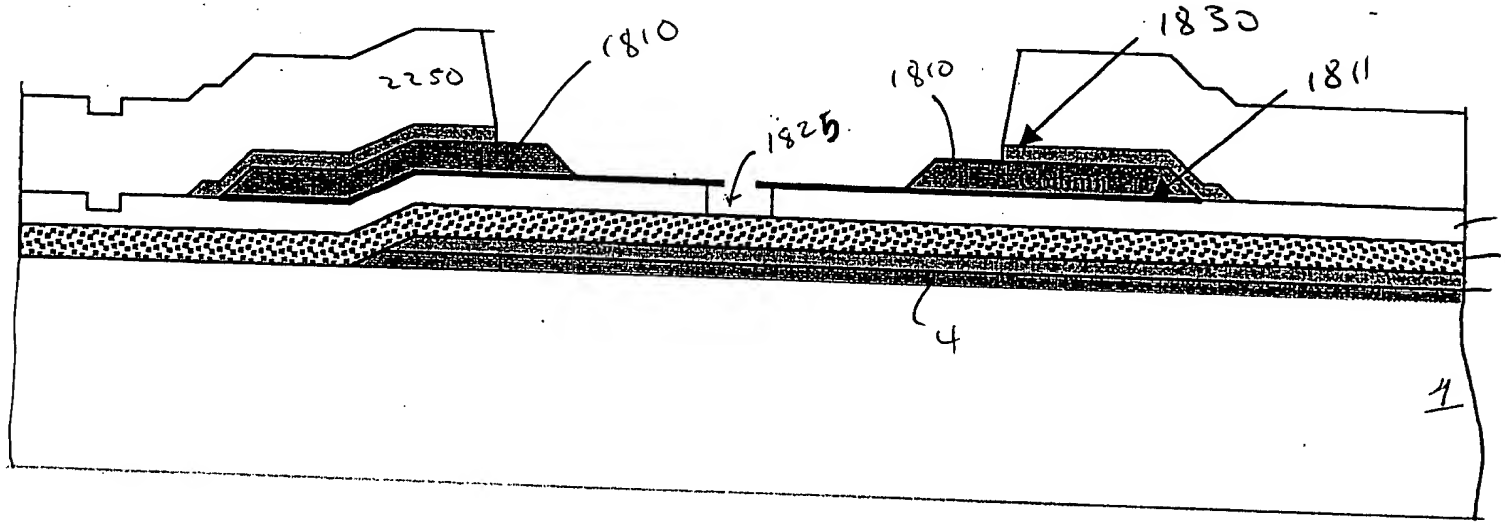


FIG 22G

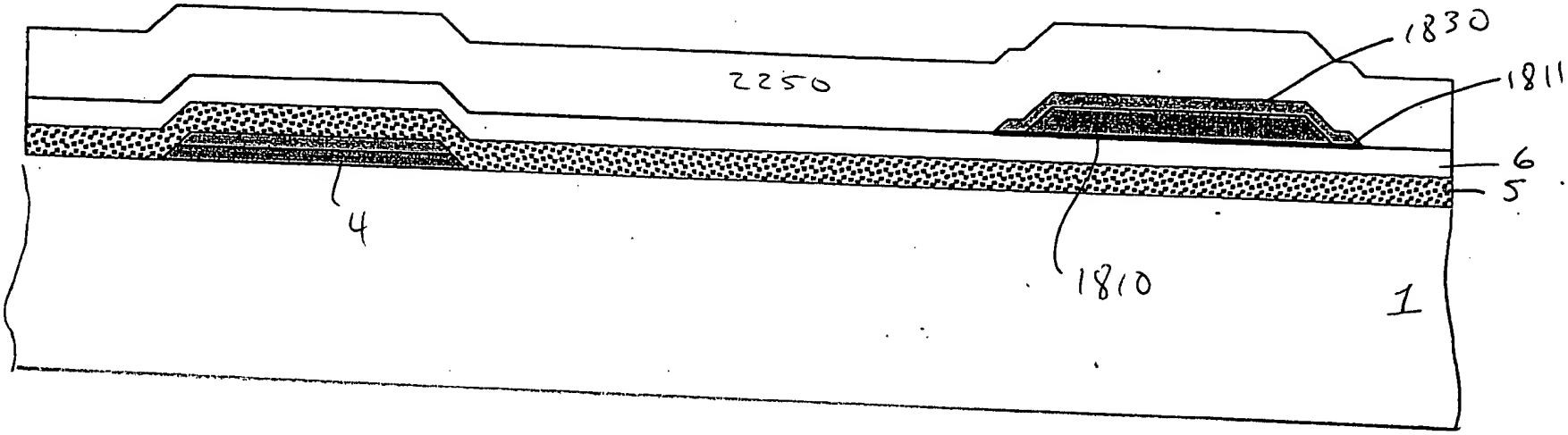


FIG 22H

FIG. 22I

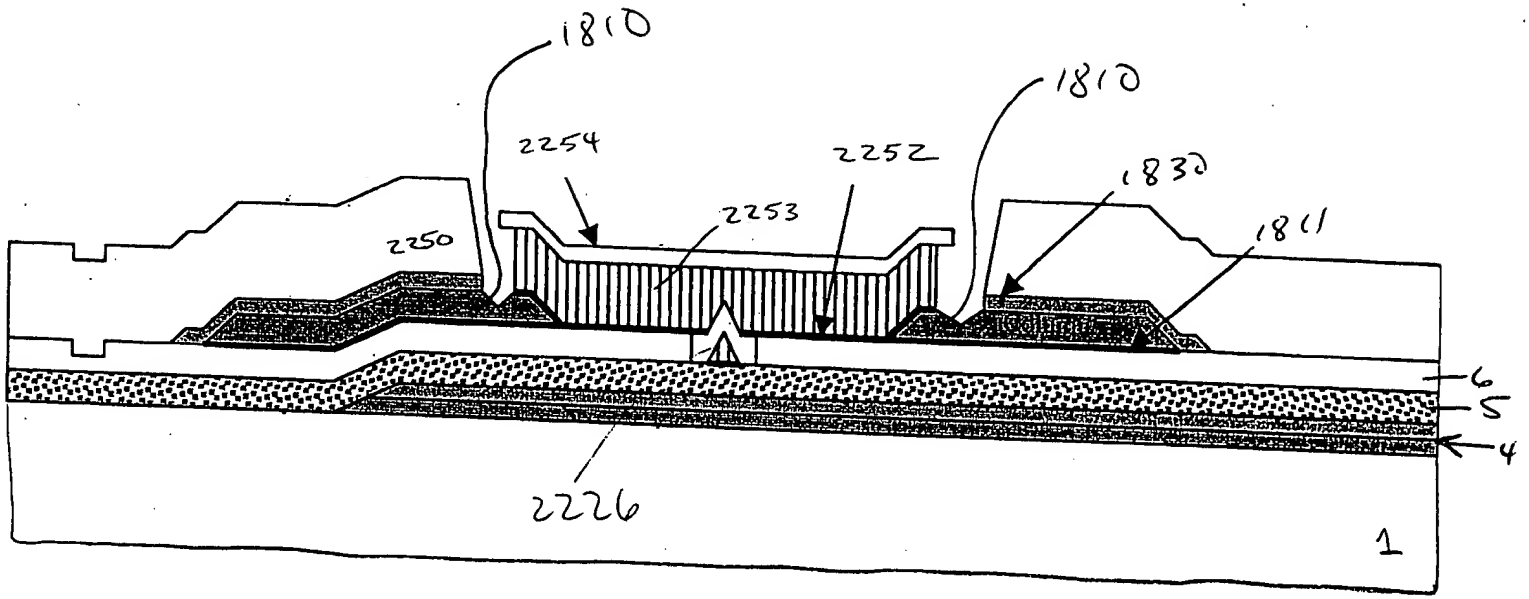


FIG. 22J

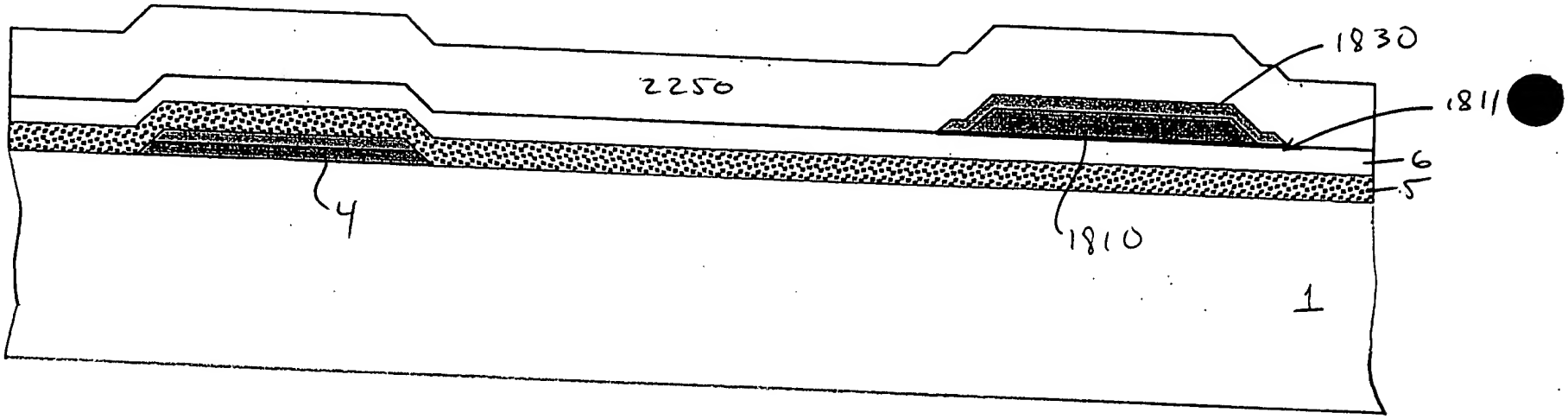


FIG. 22K

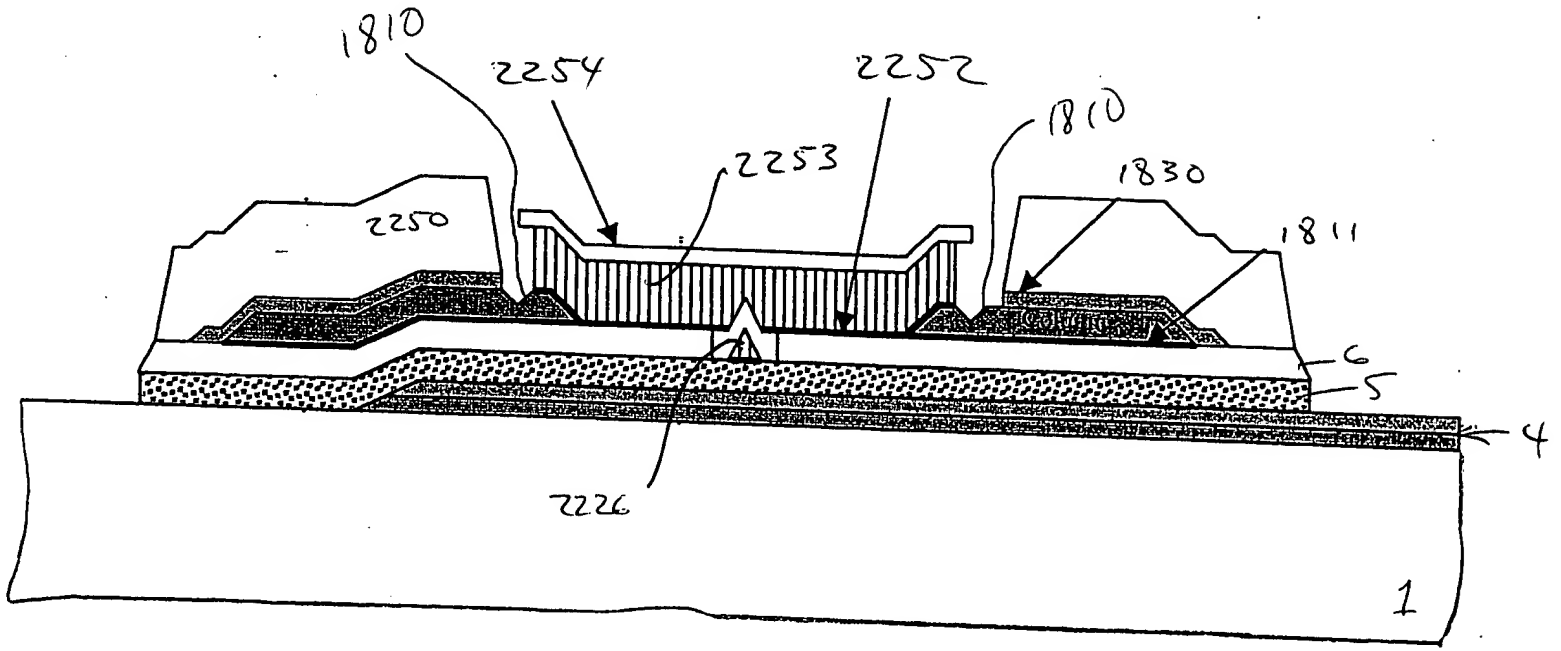
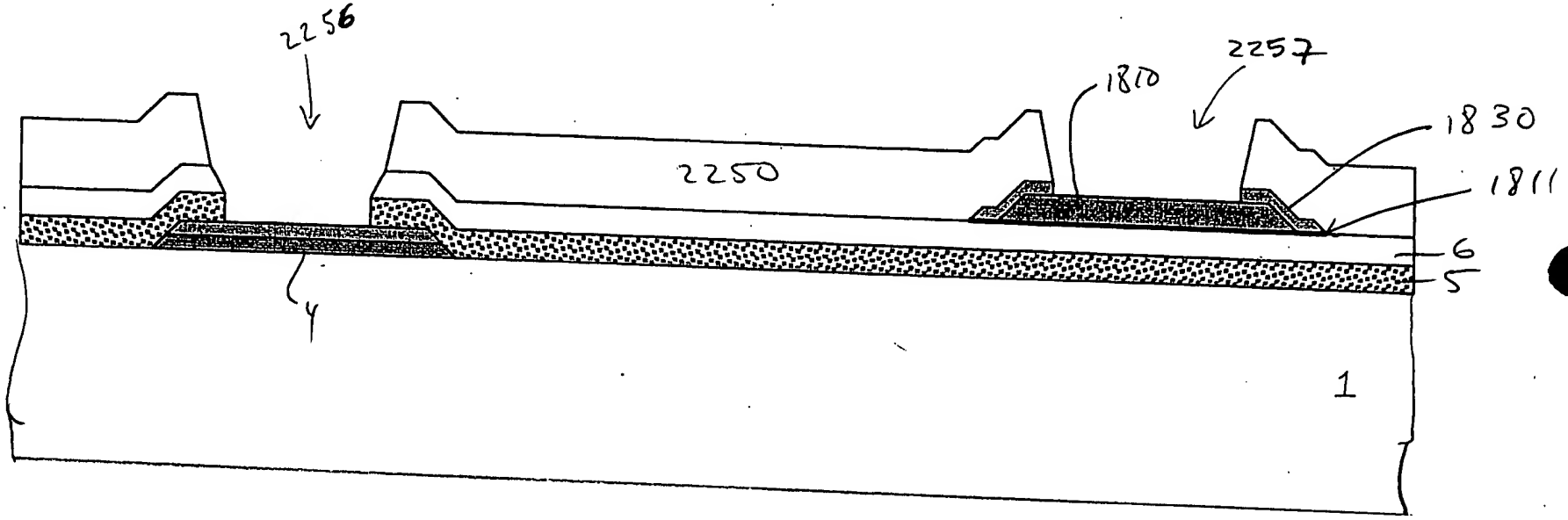


FIG 22L



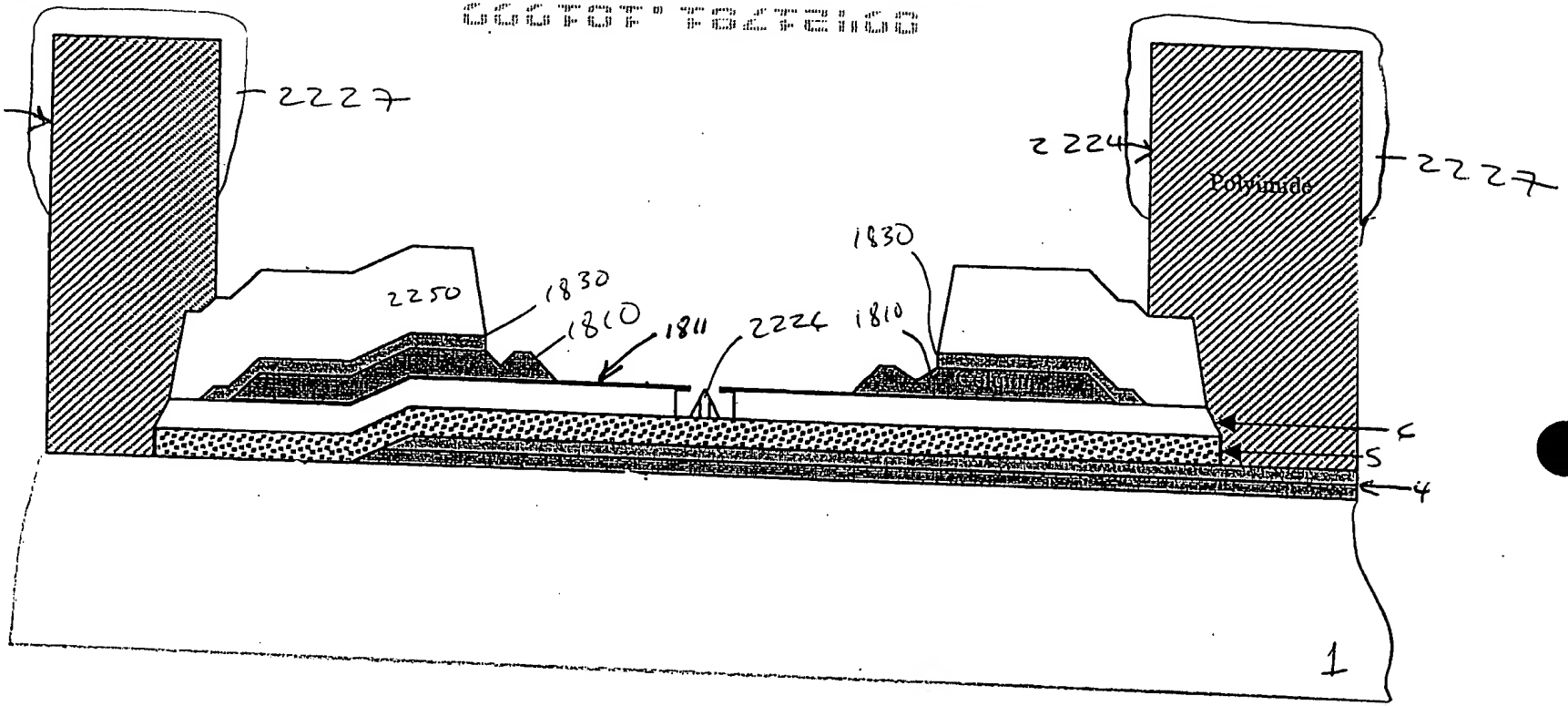


FIG 22M

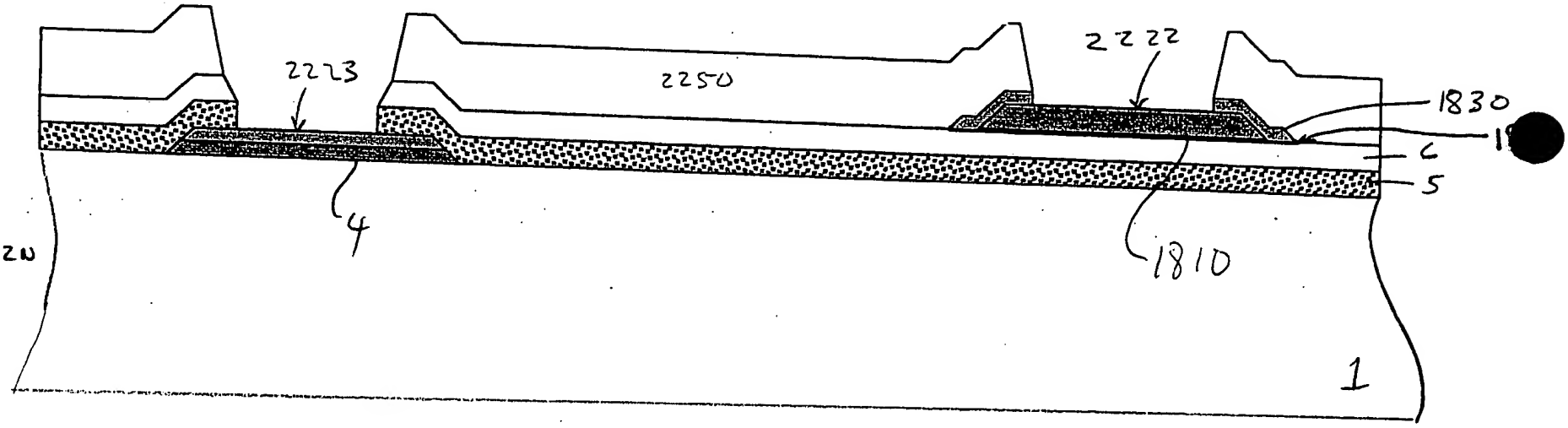


FIG 22N

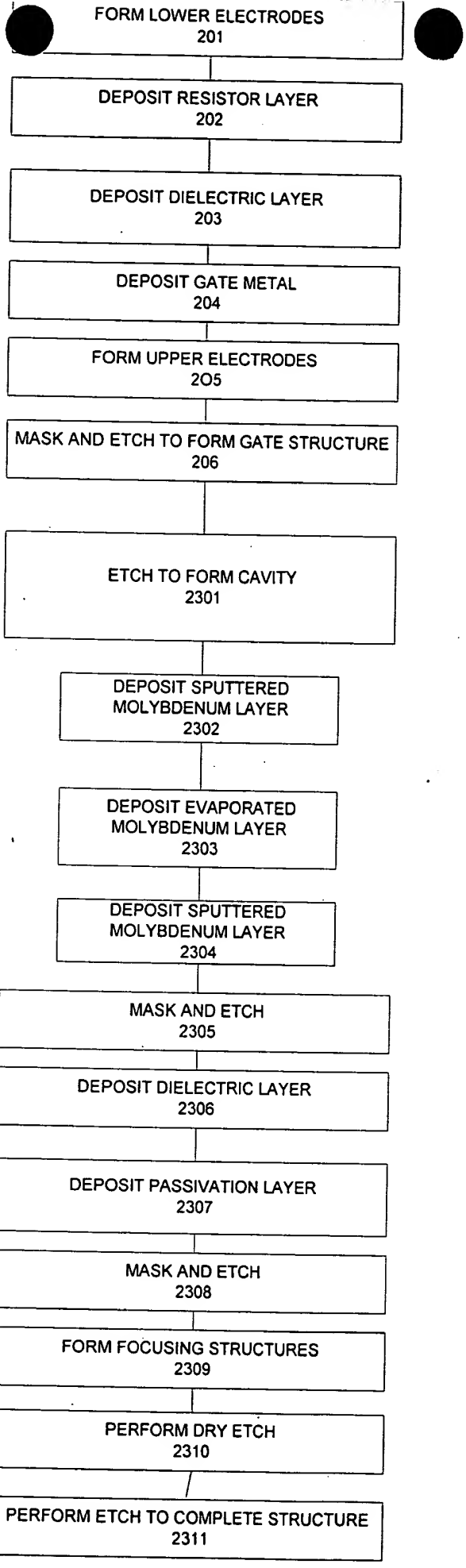

FORM LOWER ELECTRODES
201
DEPOSIT RESISTOR LAYER
202
DEPOSIT DIELECTRIC LAYER
203
DEPOSIT GATE METAL
204
FORM UPPER ELECTRODES
2O5
MASK AND ETCH TO FORM GATE STRUCTURE
206
ETCH TO FORM CAVITY
2301
DEPOSIT SPUTTERED MOLYBDENUM LAYER
2302
DEPOSIT EVAPORATED MOLYBDENUM LAYER
2303
DEPOSIT SPUTTERED MOLYBDENUM LAYER
2304
MASK AND ETCH
2305
DEPOSIT DIELECTRIC LAYER
2306
DEPOSIT PASSIVATION LAYER
2307
MASK AND ETCH
2308
FORM FOCUSING STRUCTURES
2309
PERFORM DRY ETCH
2310
PERFORM ETCH TO COMPLETE STRUCTURE
2311

FIG. 23

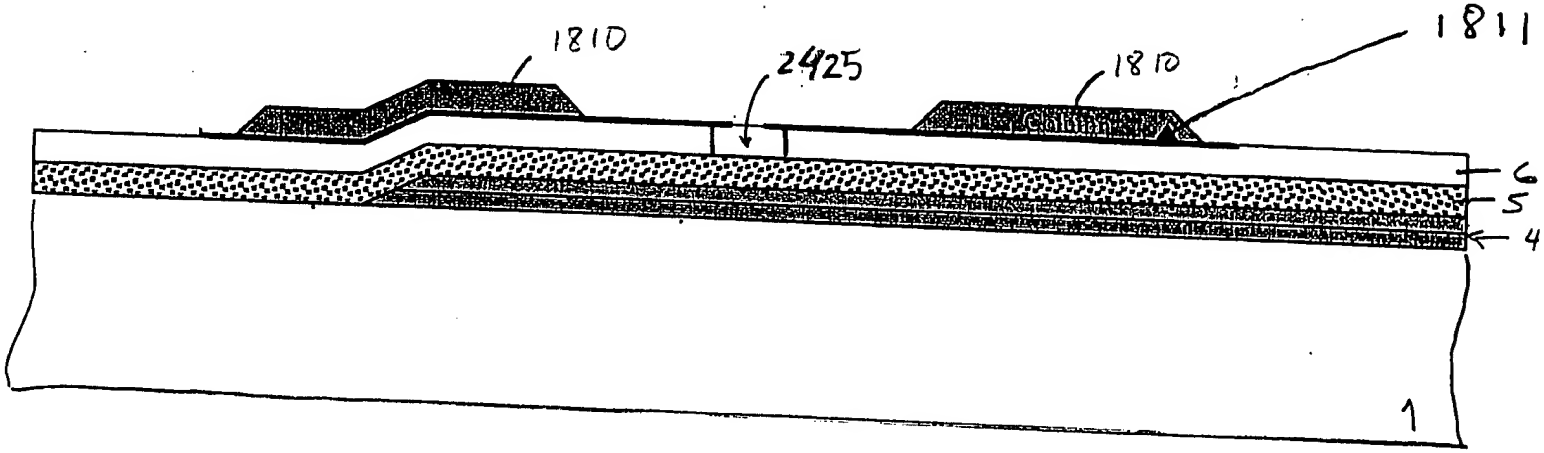


FIG 24A

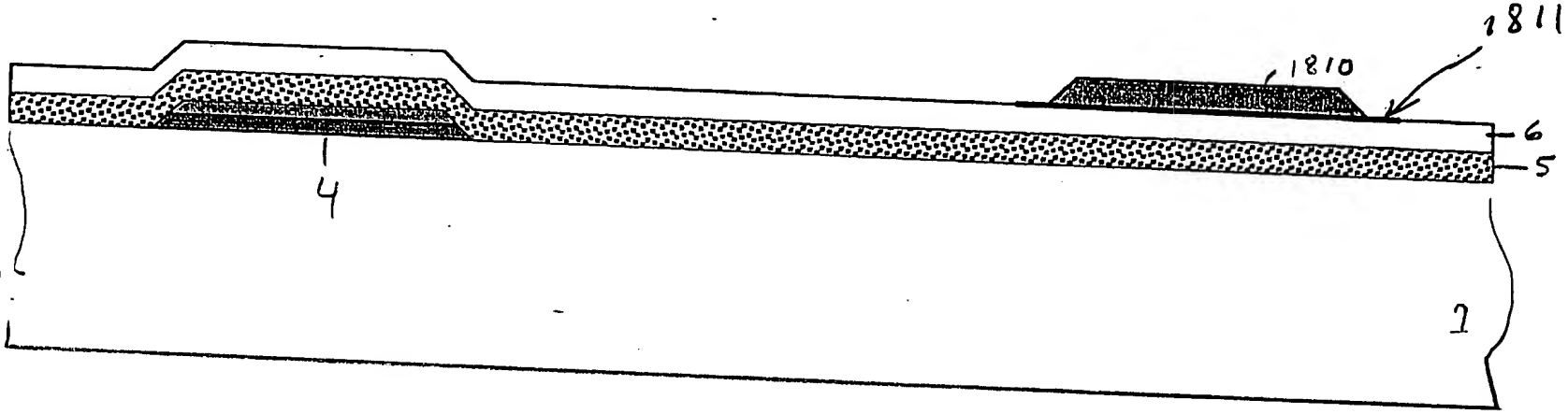


FIG. 24B

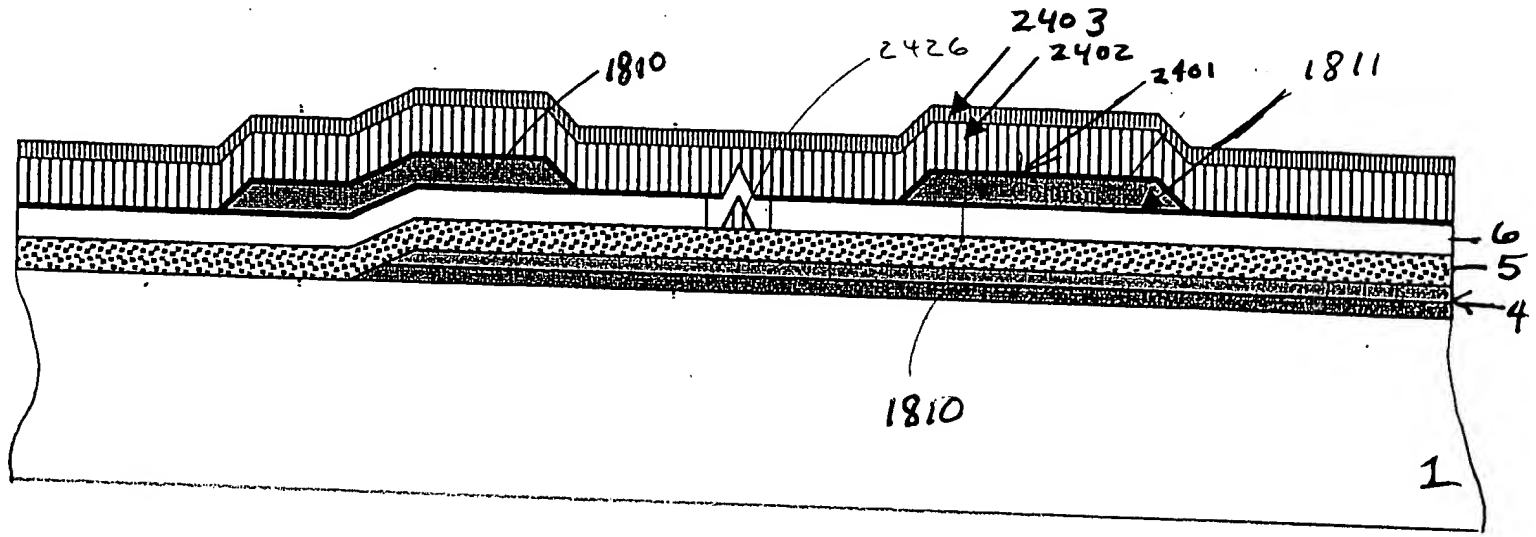


FIG 24C

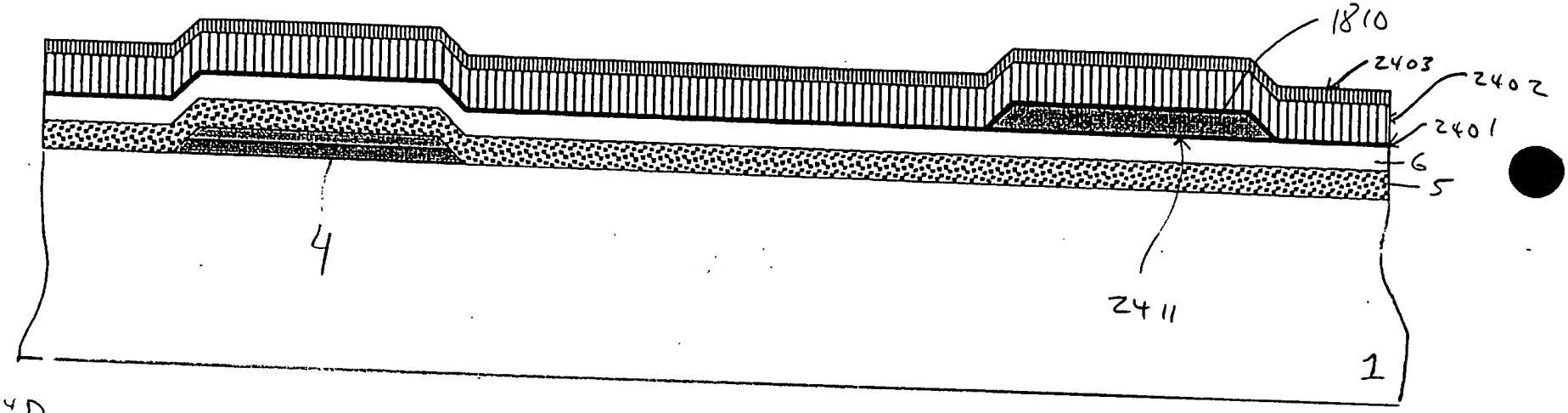


FIG 24D

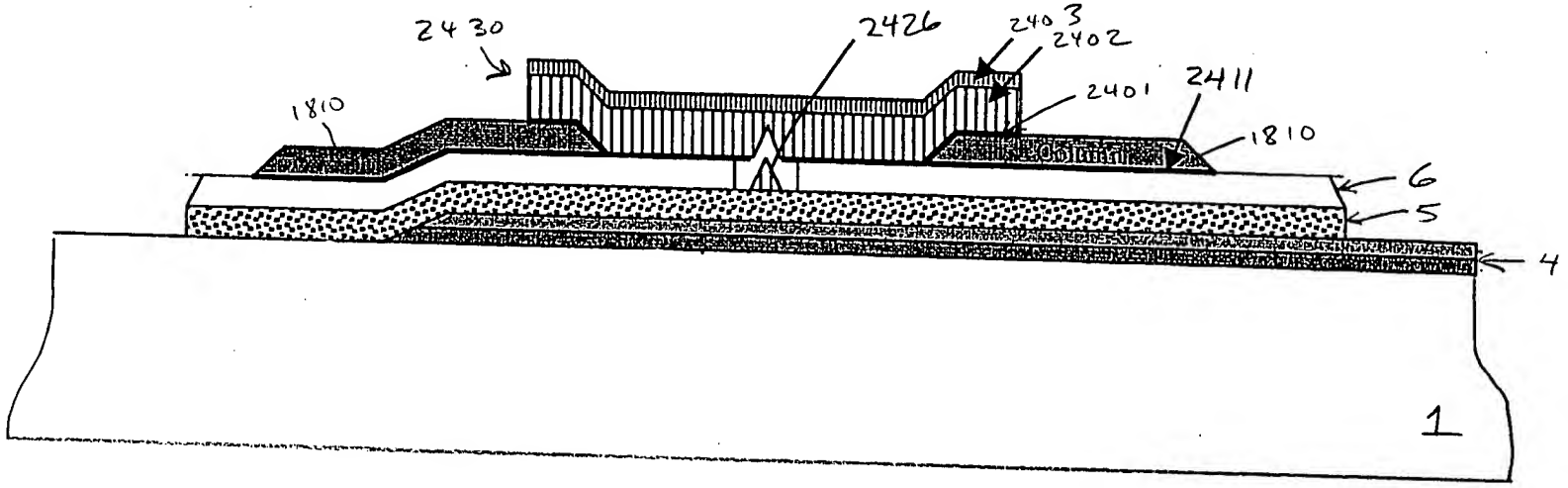


FIG. 24E

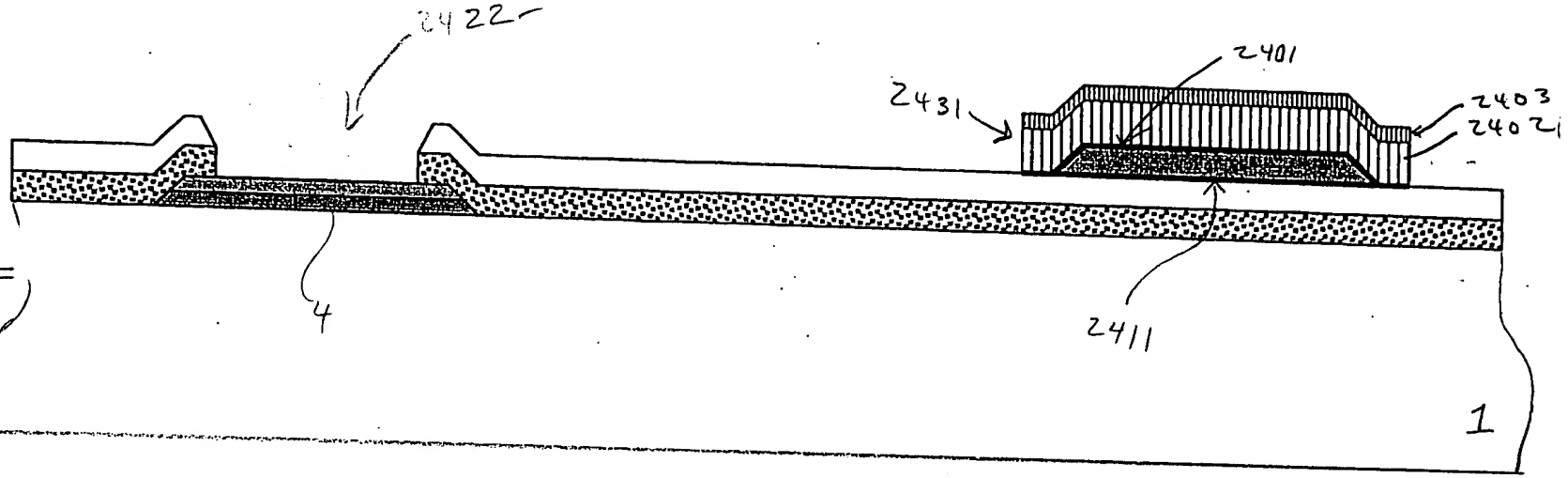


FIG. 24F

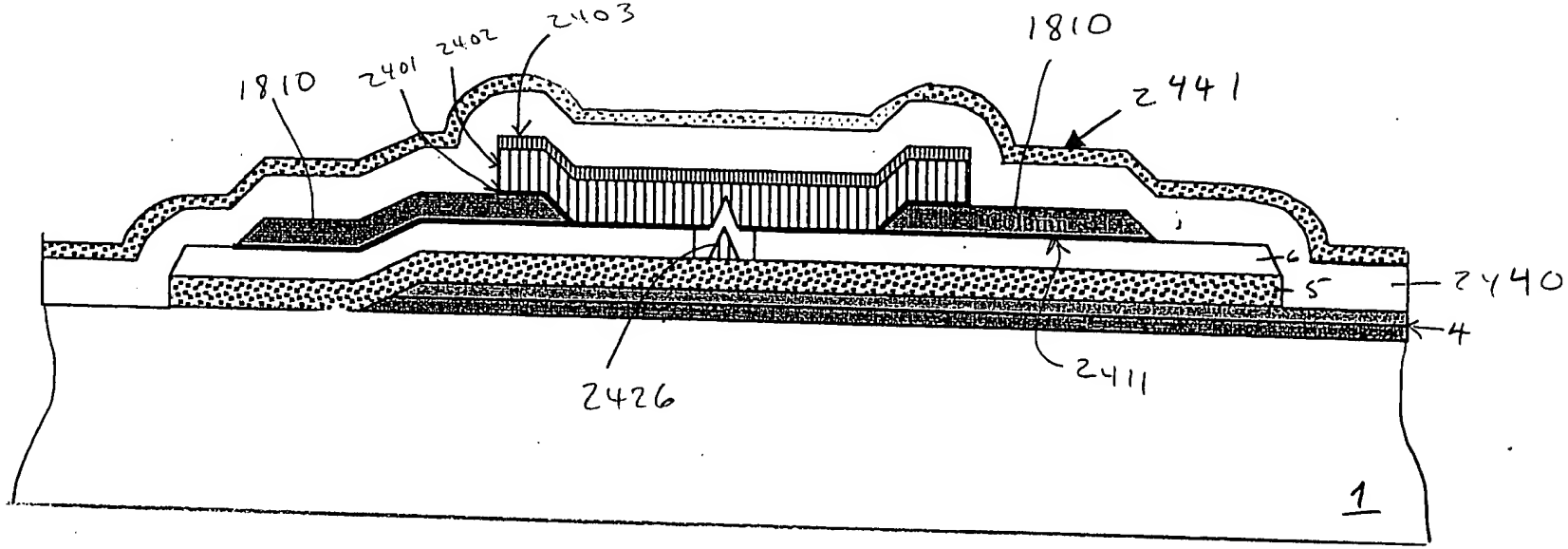


FIG. 24G

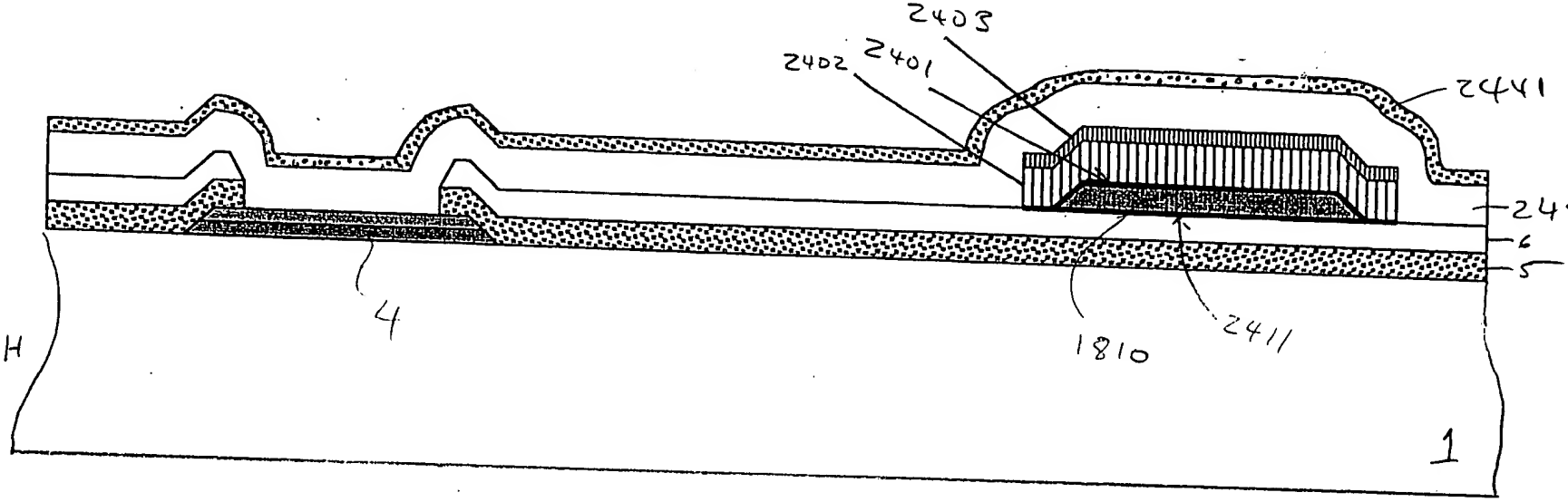


FIG. 24H

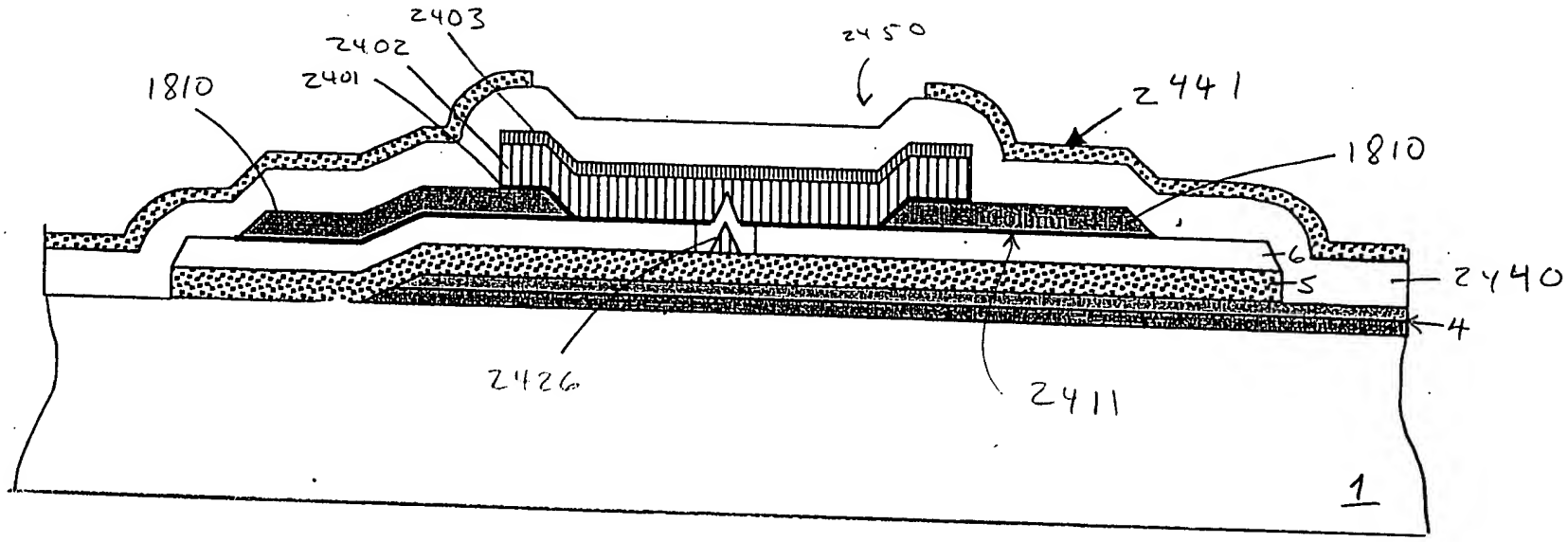


FIG. 24I

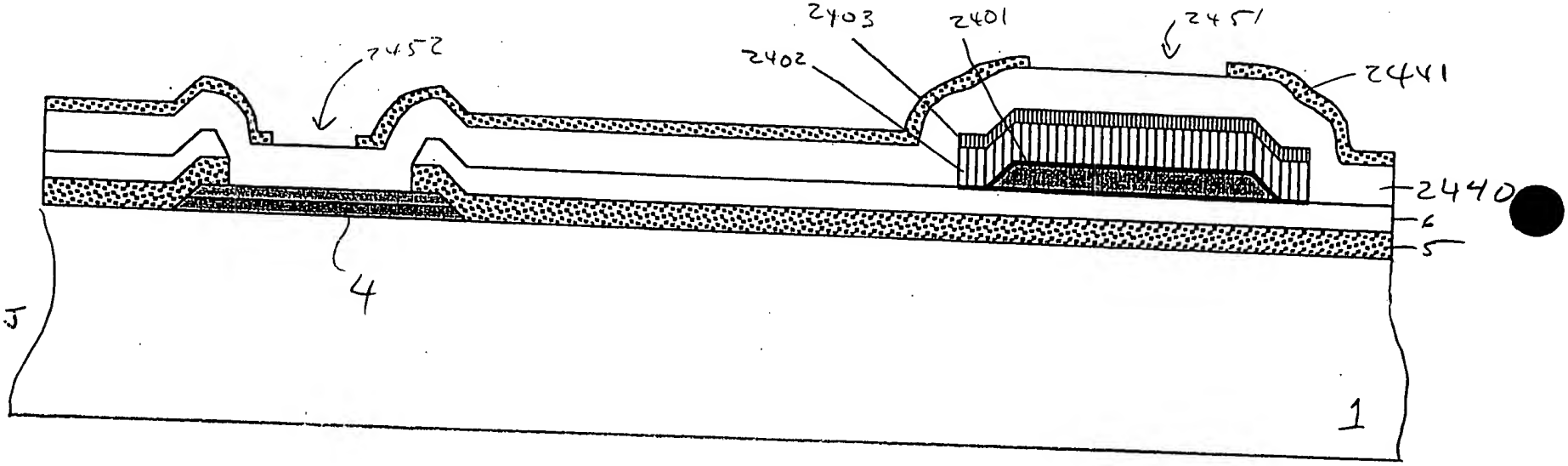


FIG 24J

GGGTOT" T8ZT2IGO

FIG 24K

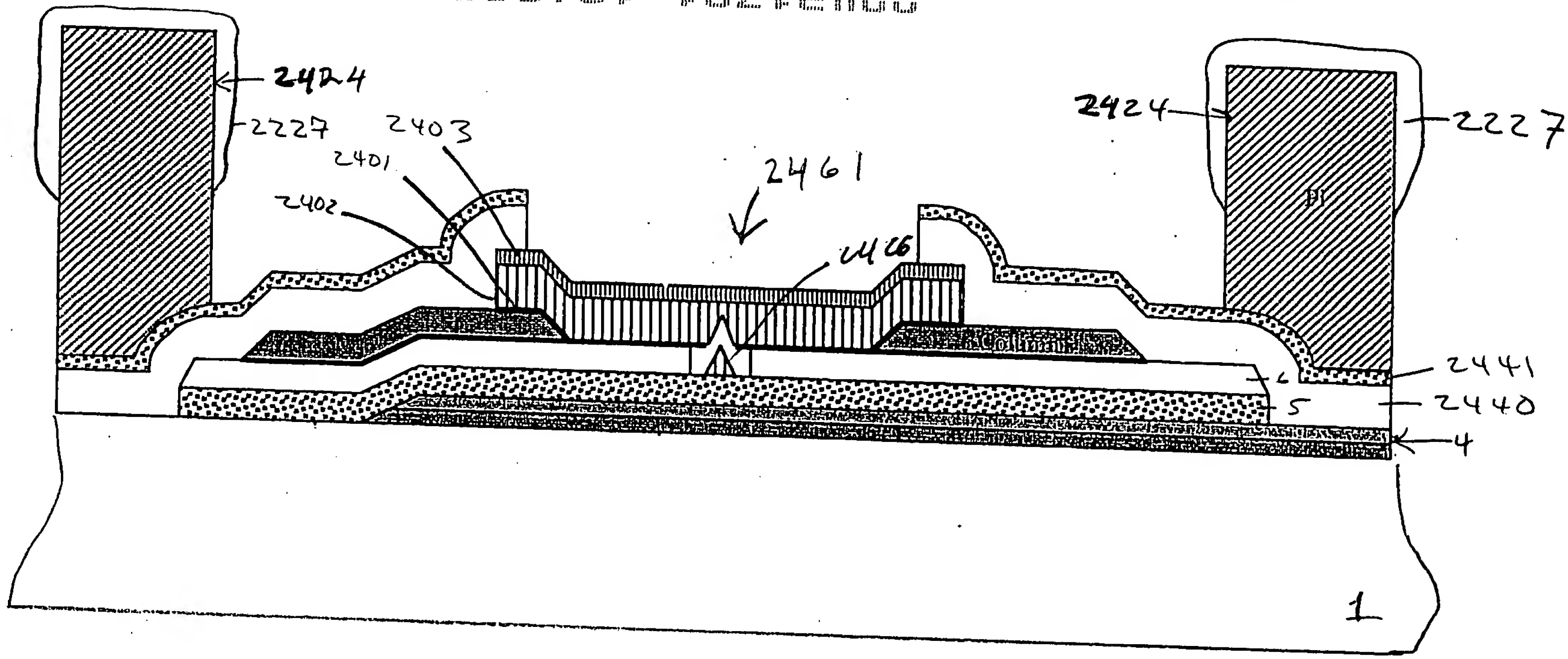
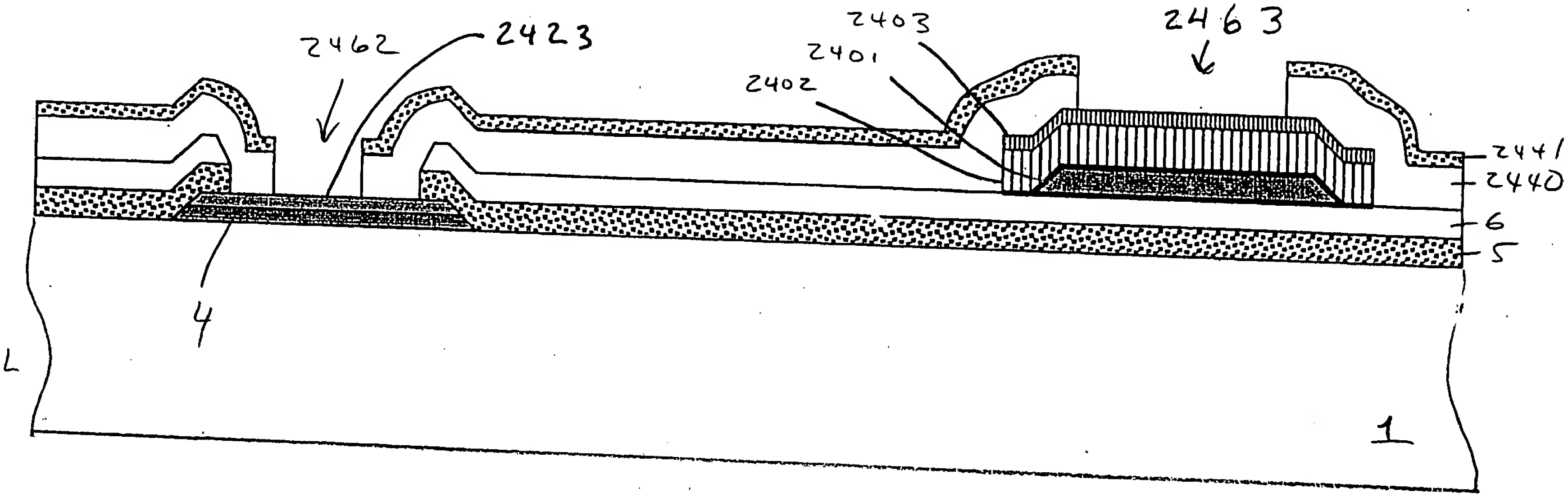


FIG 24L



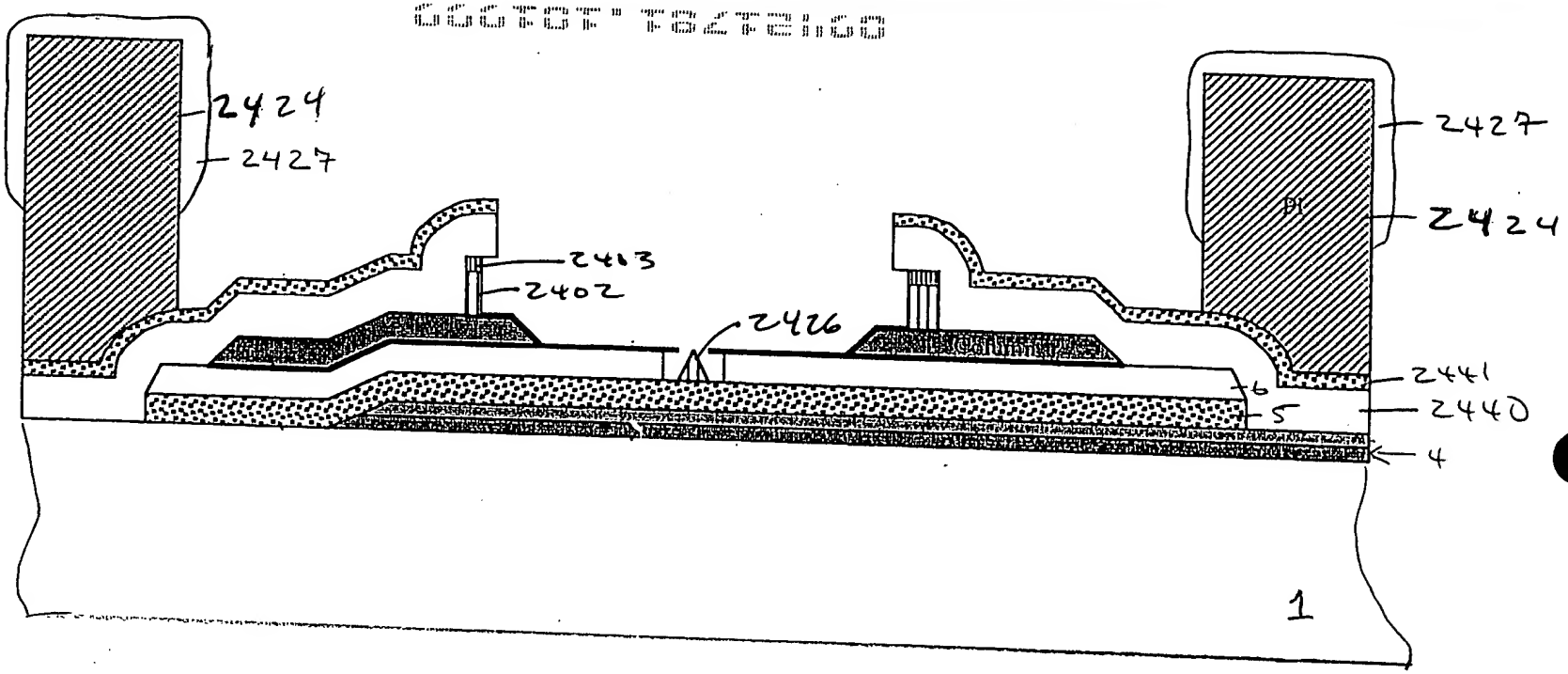


FIG. 24M

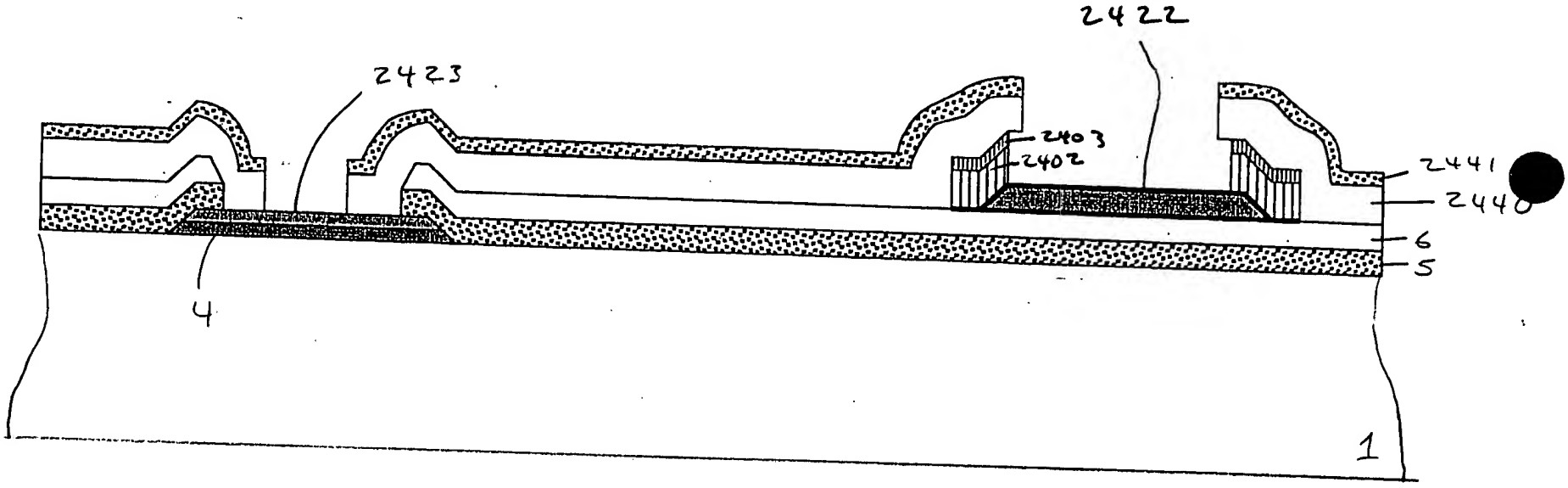


FIG. 24N

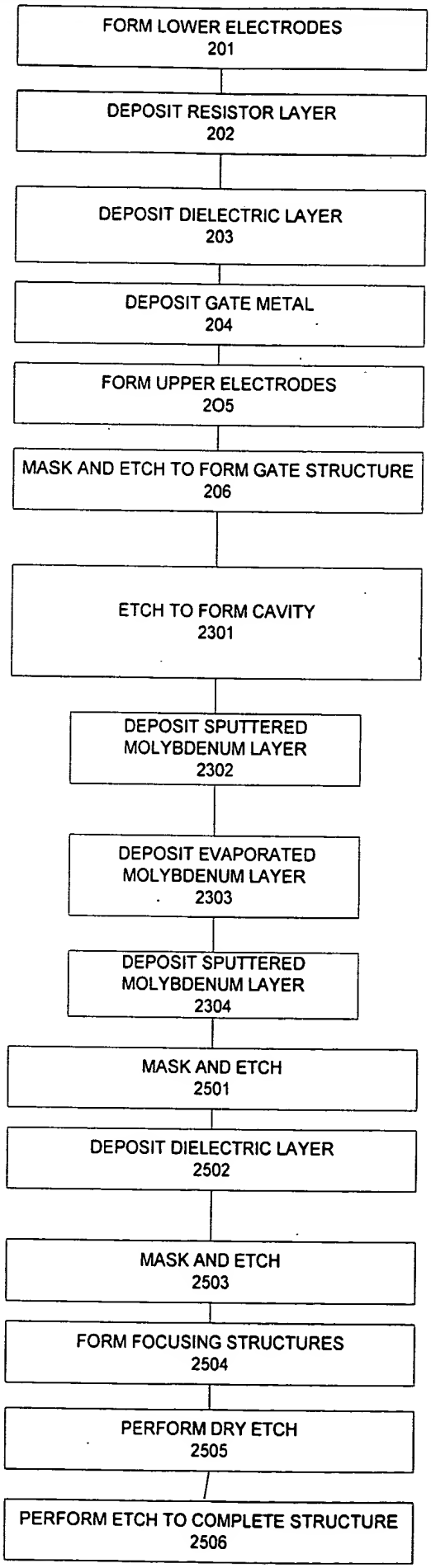

FORM LOWER ELECTRODES
201
DEPOSIT RESISTOR LAYER
202
DEPOSIT DIELECTRIC LAYER
203
DEPOSIT GATE METAL
204
FORM UPPER ELECTRODES
2O5
MASK AND ETCH TO FORM GATE STRUCTURE
206
ETCH TO FORM CAVITY
2301
DEPOSIT SPUTTERED
MOLYBDENUM LAYER
2302
DEPOSIT EVAPORATED
MOLYBDENUM LAYER
2303
DEPOSIT SPUTTERED
MOLYBDENUM LAYER
2304
MASK AND ETCH
2501
DEPOSIT DIELECTRIC LAYER
2502
MASK AND ETCH
2503
FORM FOCUSING STRUCTURES
2504
PERFORM DRY ETCH
2505
PERFORM ETCH TO COMPLETE STRUCTURE
2506

FIG. 25

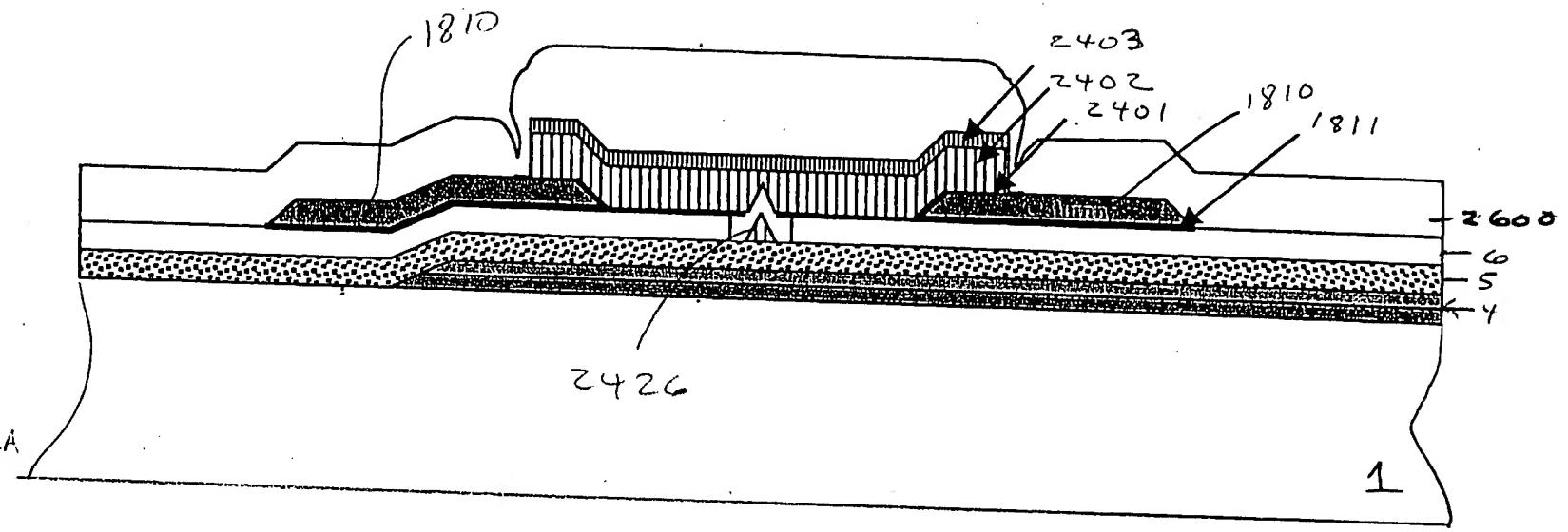


FIG. 26A

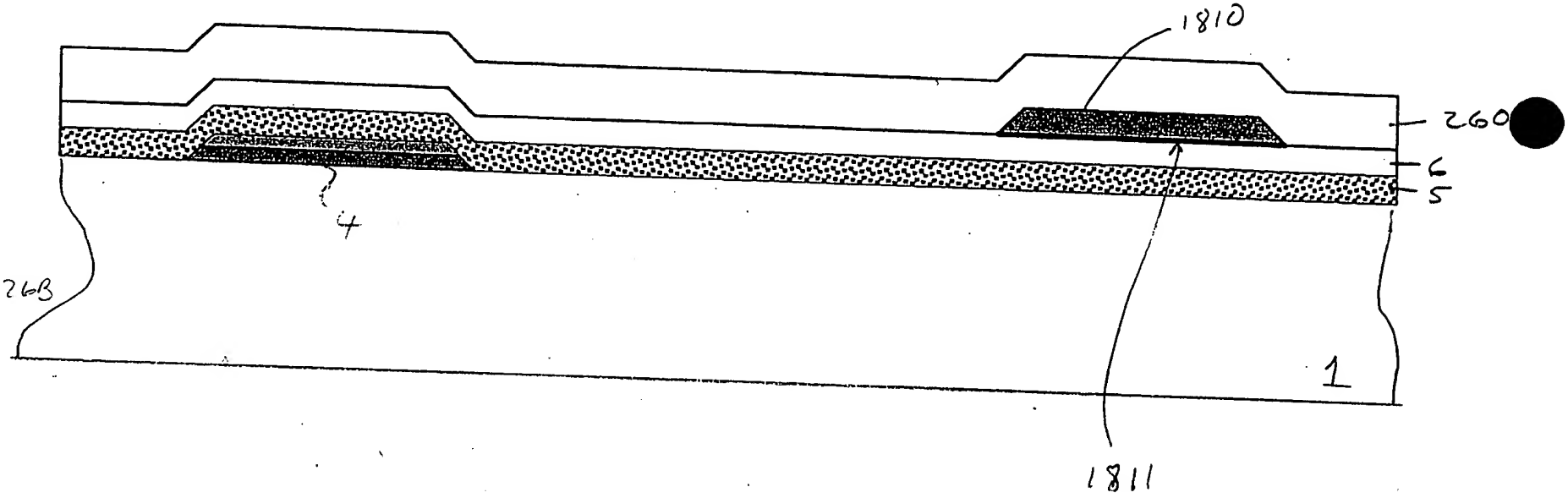


FIG. 26B

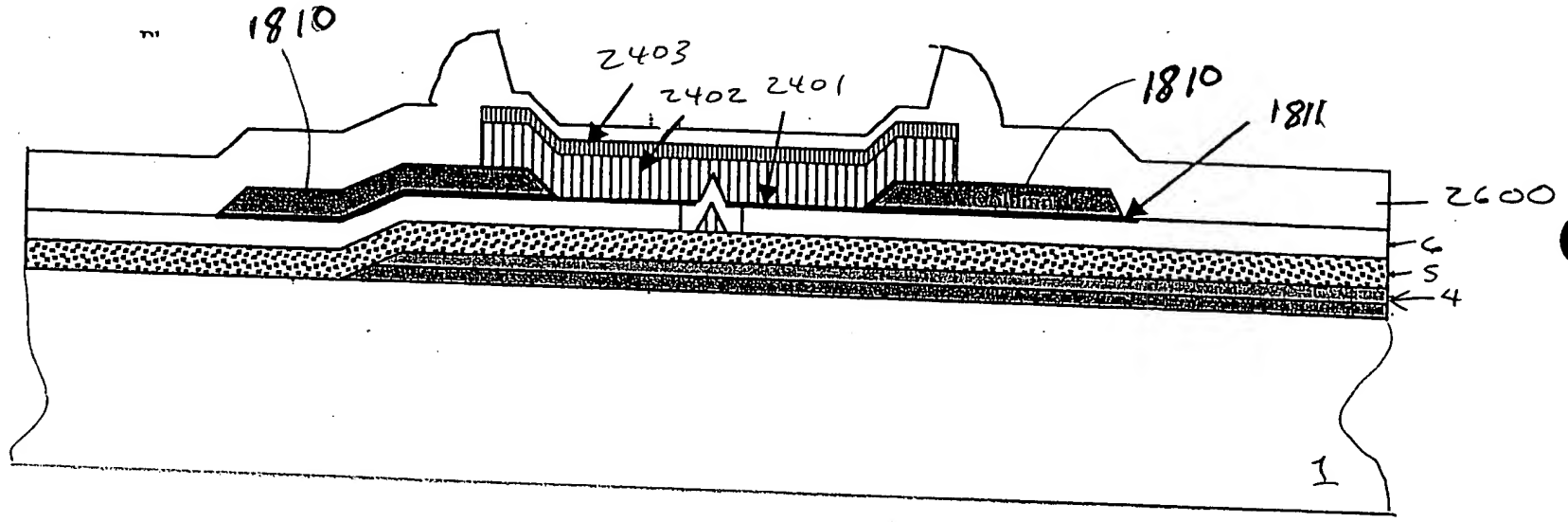


FIG 26C

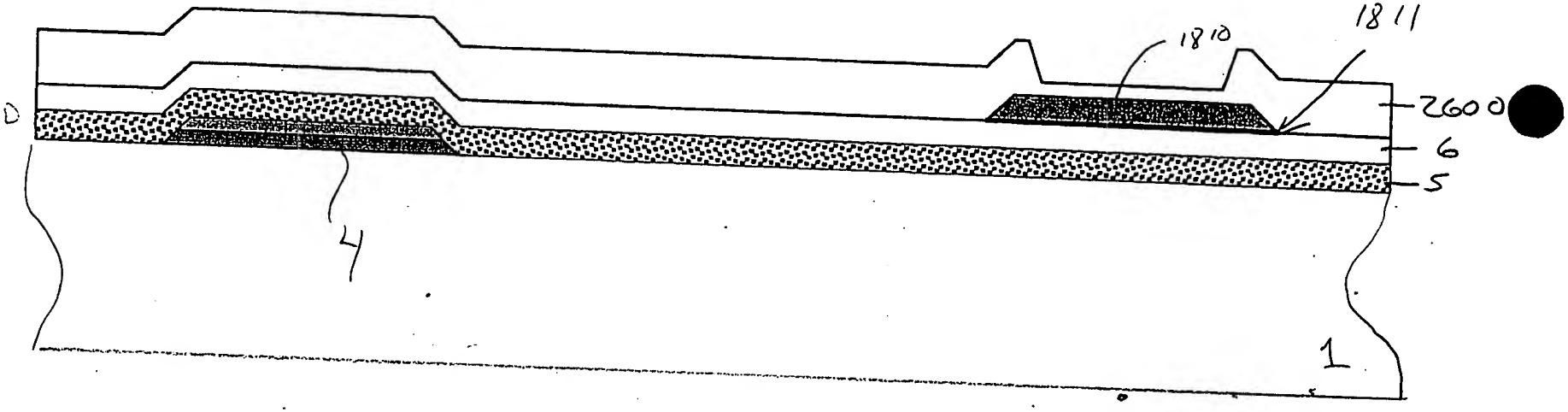


FIG 26D

FIG 26E

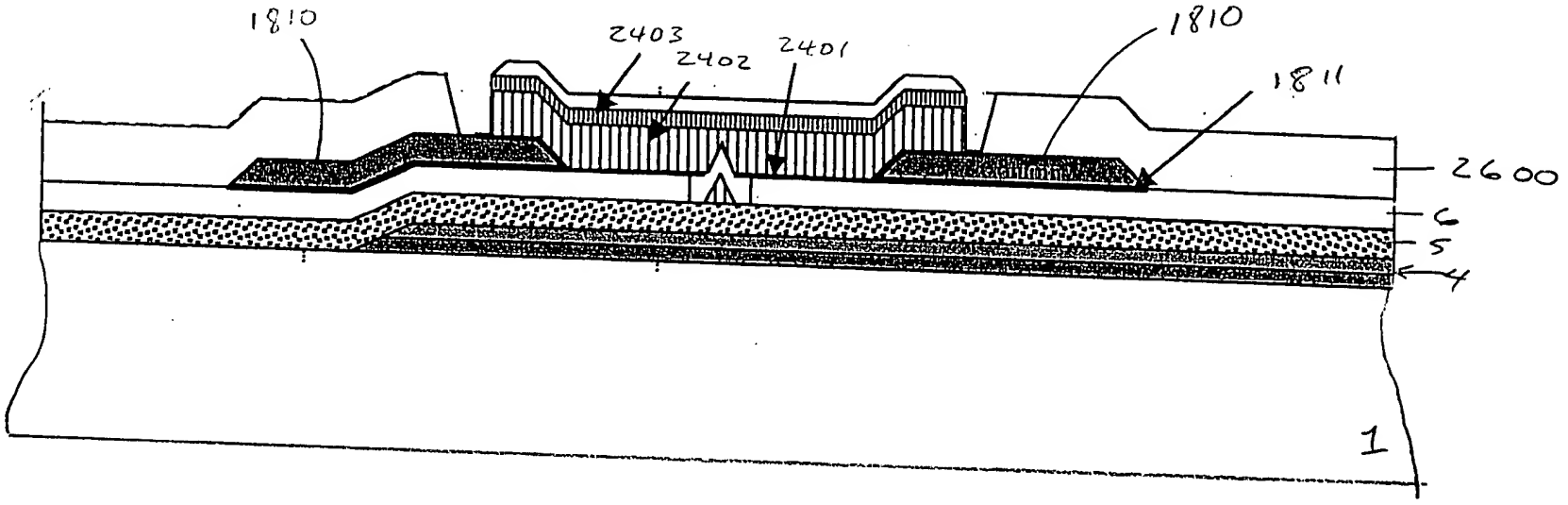


FIG 26F

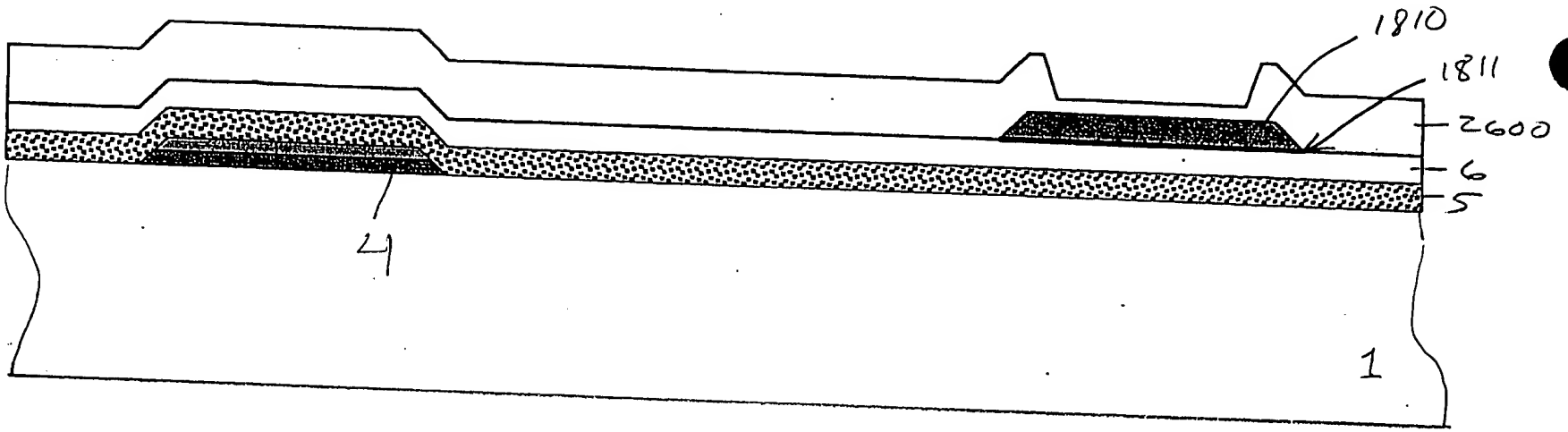


FIG 26G

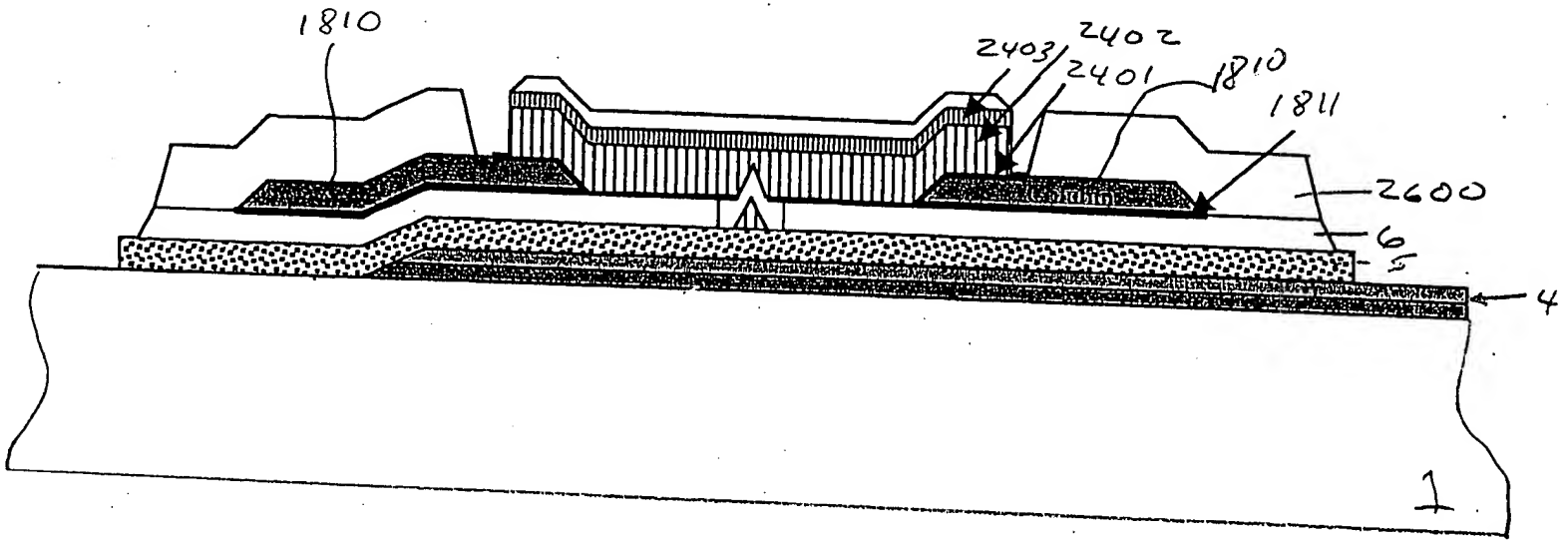
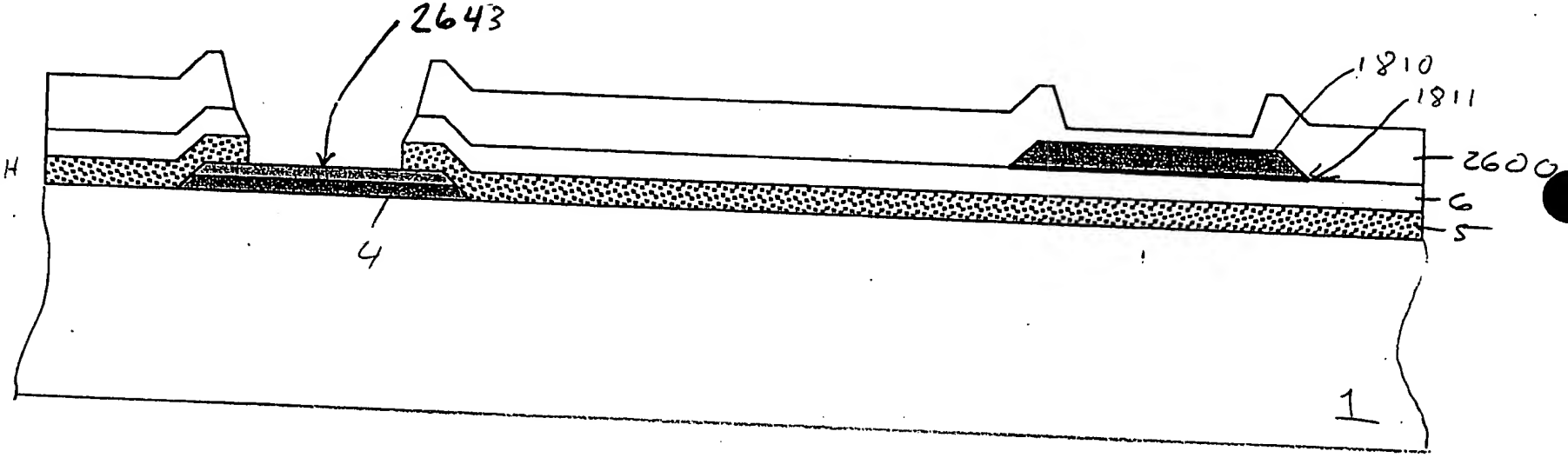


FIG. 26H



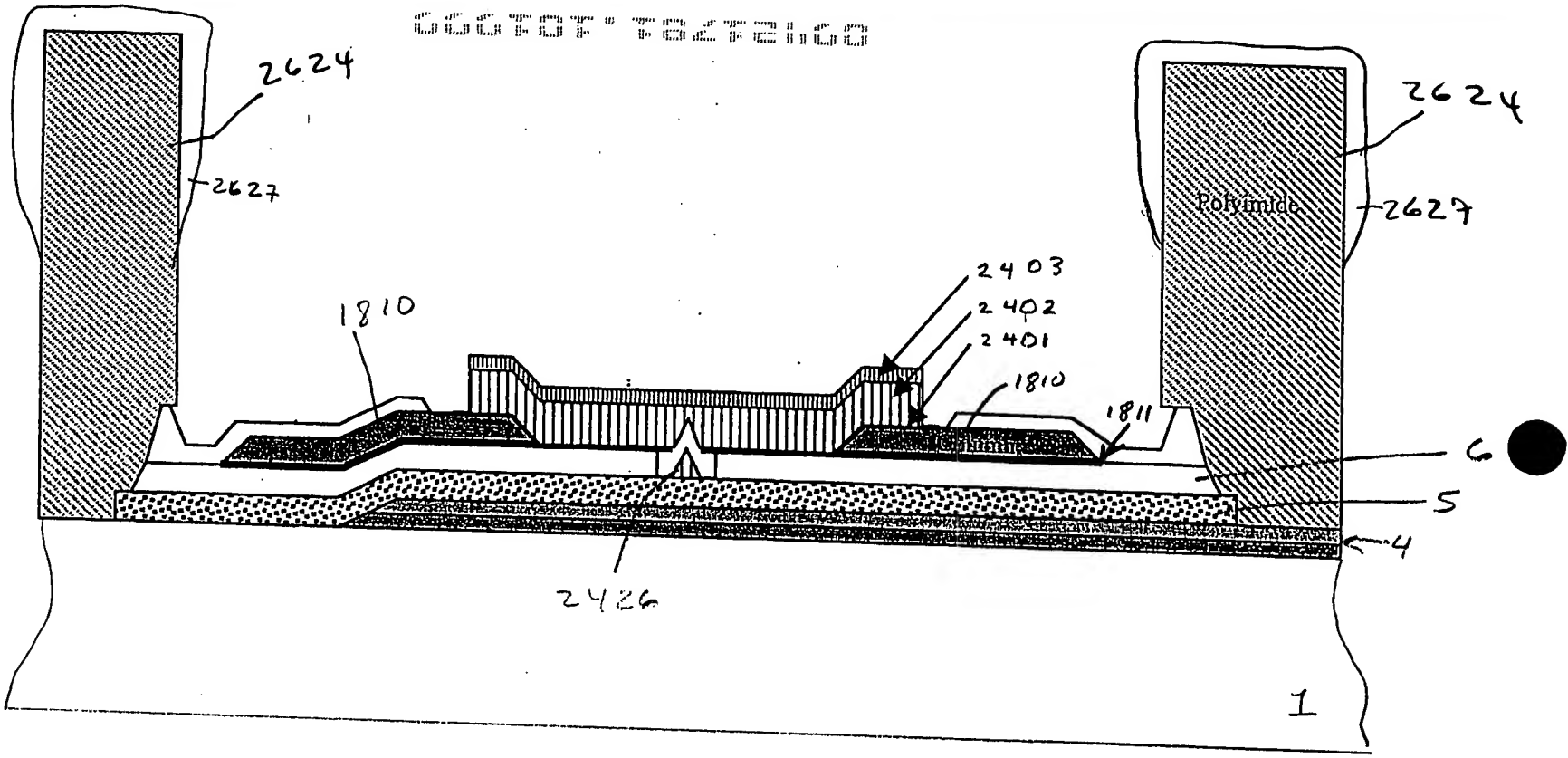


FIG 26I

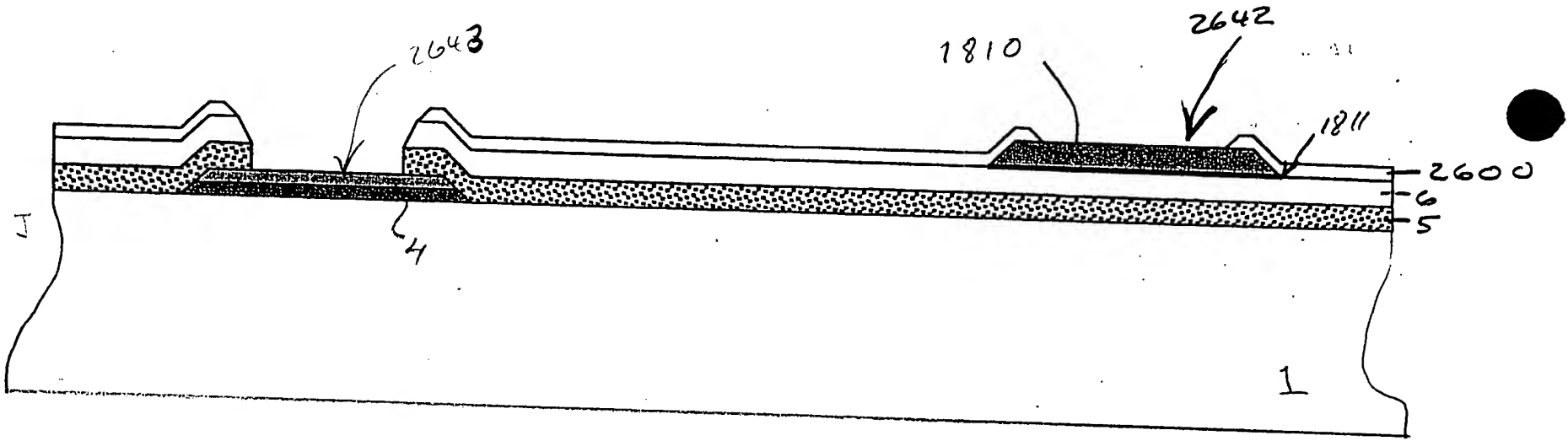


FIG 26J

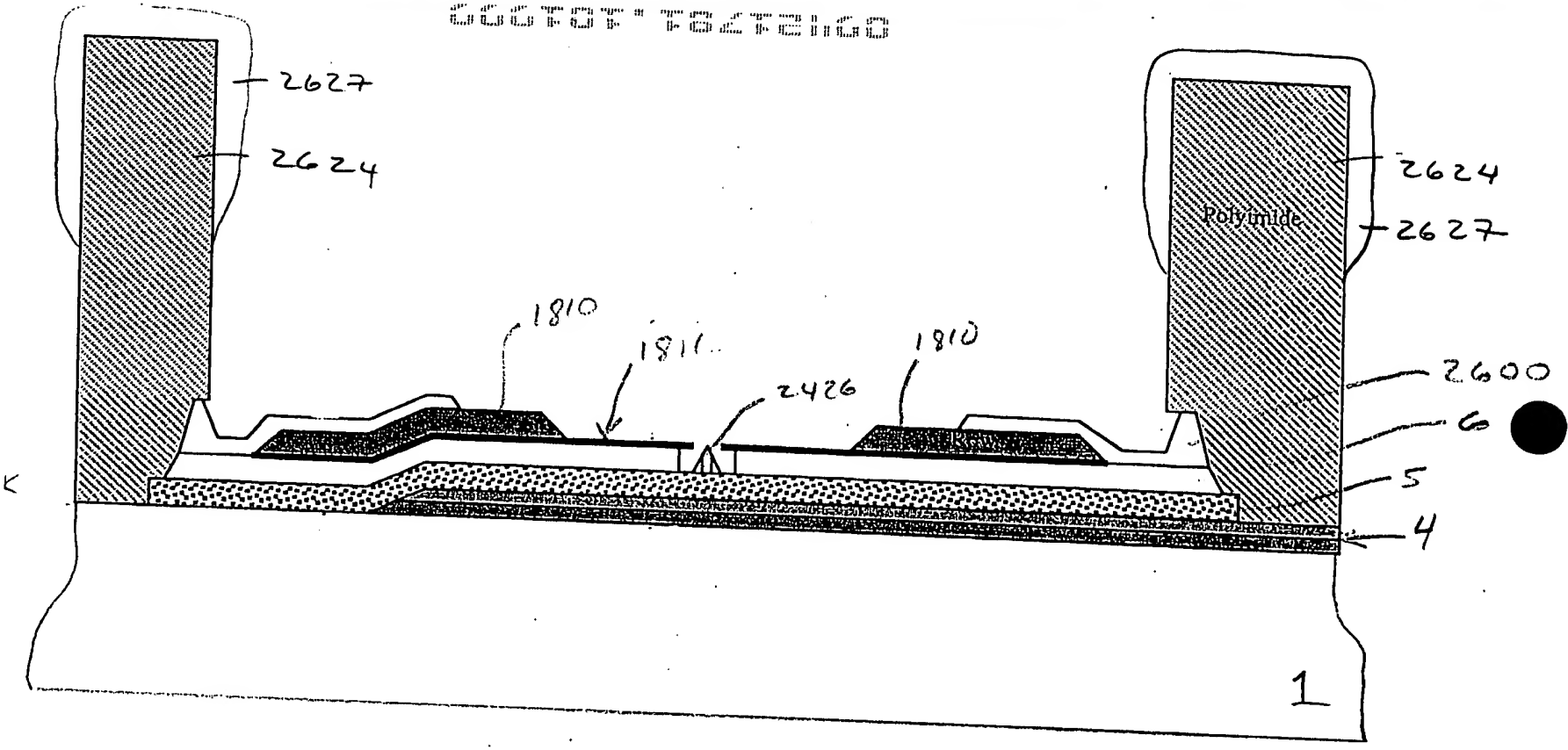


FIG 26K

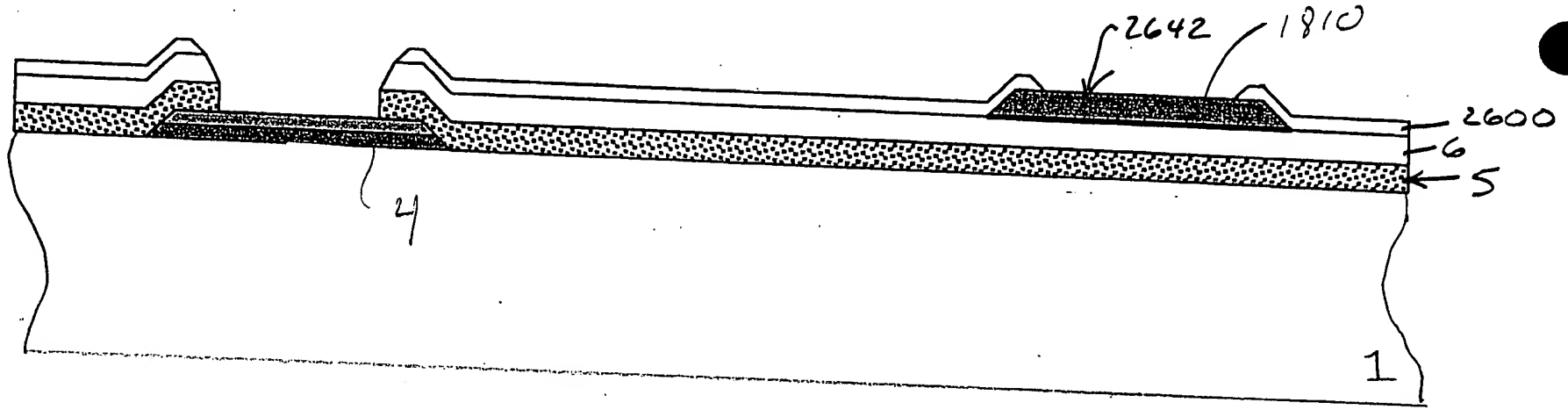


FIG 26L

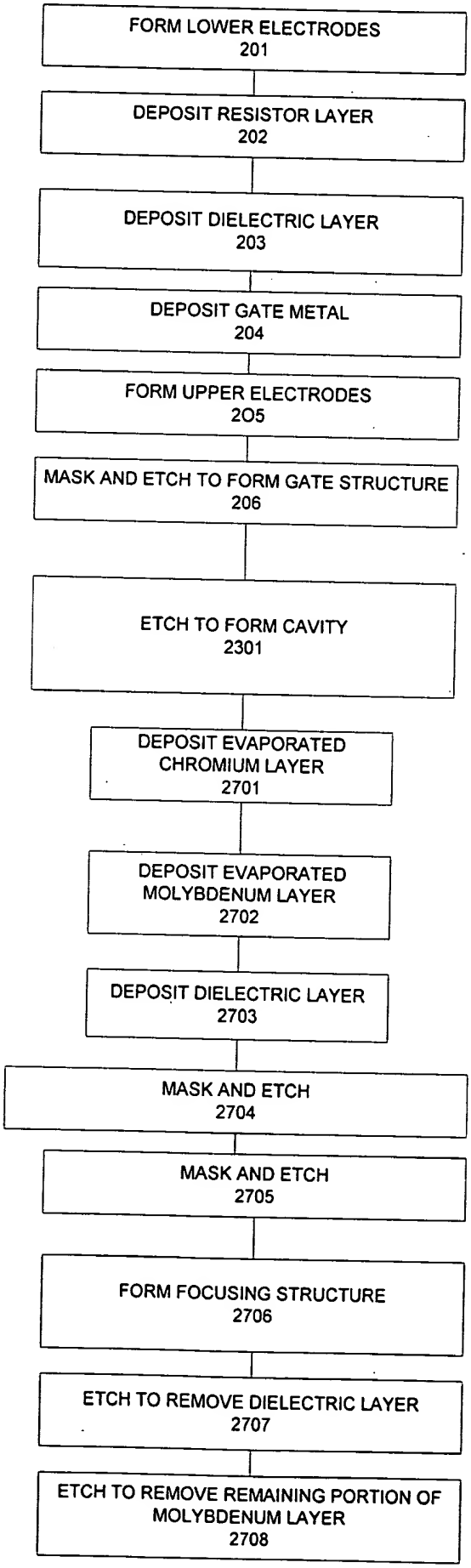

FORM LOWER ELECTRODES
201
DEPOSIT RESISTOR LAYER
202
DEPOSIT DIELECTRIC LAYER
203
DEPOSIT GATE METAL
204
FORM UPPER ELECTRODES
2O5
MASK AND ETCH TO FORM GATE STRUCTURE
206
ETCH TO FORM CAVITY
2301
DEPOSIT EVAPORATED CHROMIUM LAYER
2701
DEPOSIT EVAPORATED MOLYBDENUM LAYER
2702
DEPOSIT DIELECTRIC LAYER
2703
MASK AND ETCH
2704
MASK AND ETCH
2705
FORM FOCUSING STRUCTURE
2706
ETCH TO REMOVE DIELECTRIC LAYER
2707
ETCH TO REMOVE REMAINING PORTION OF MOLYBDENUM LAYER
2708

FIG. 27

FIG 28A

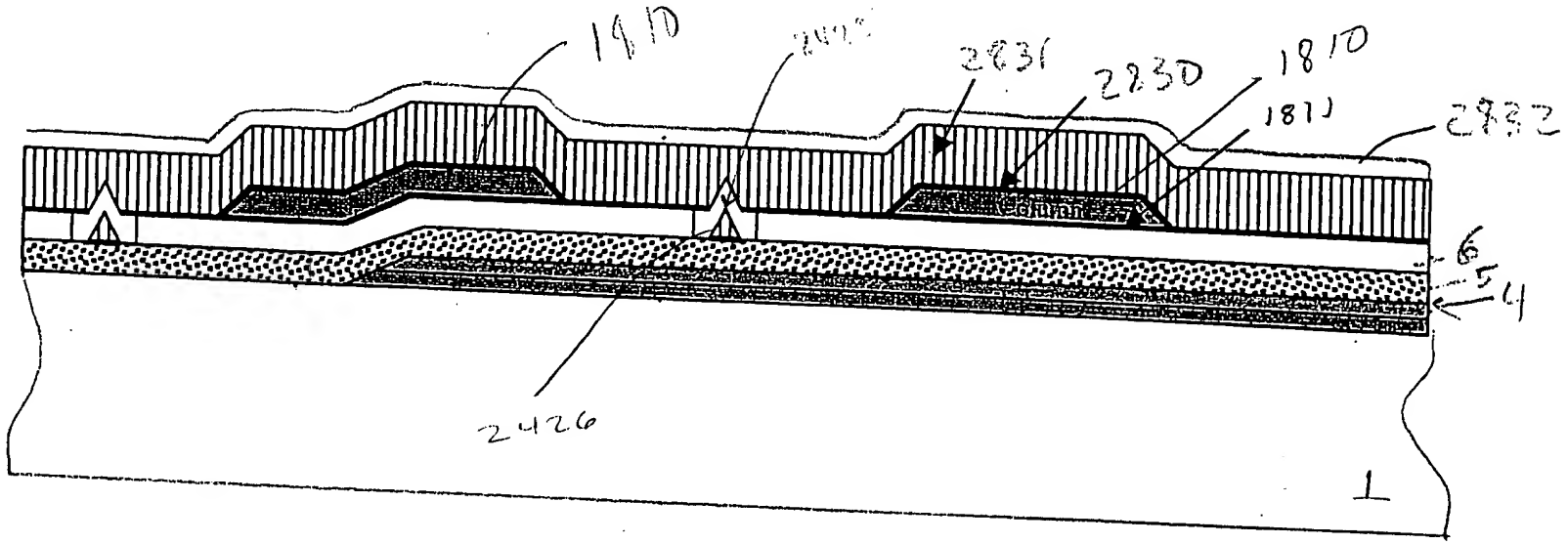
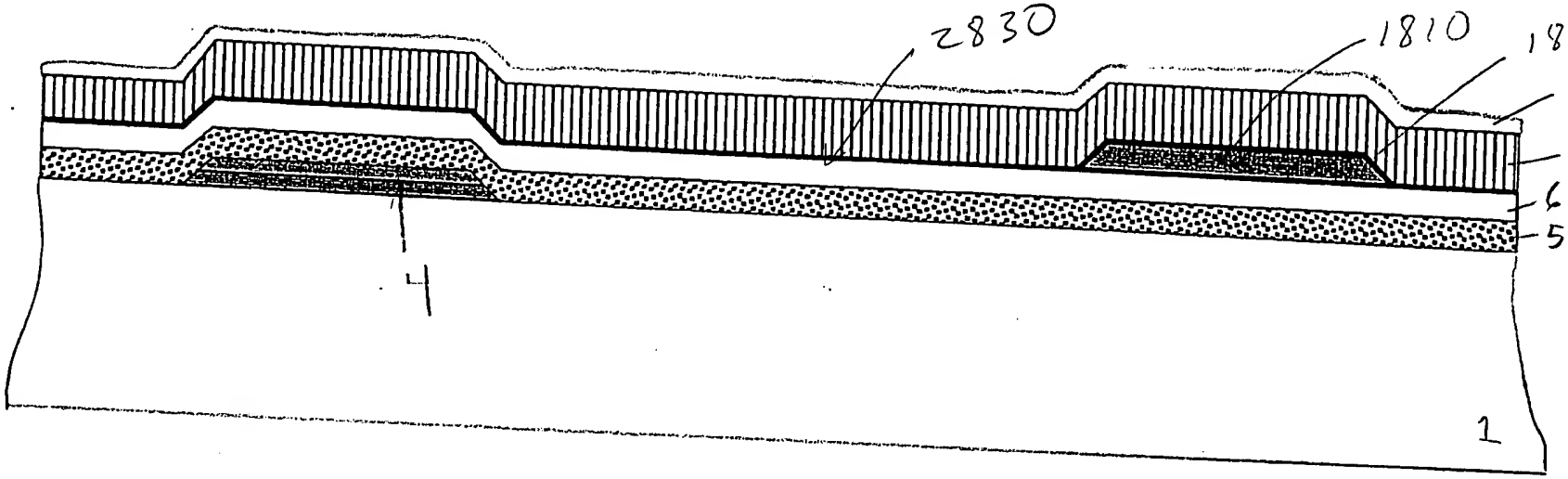


FIG 28B



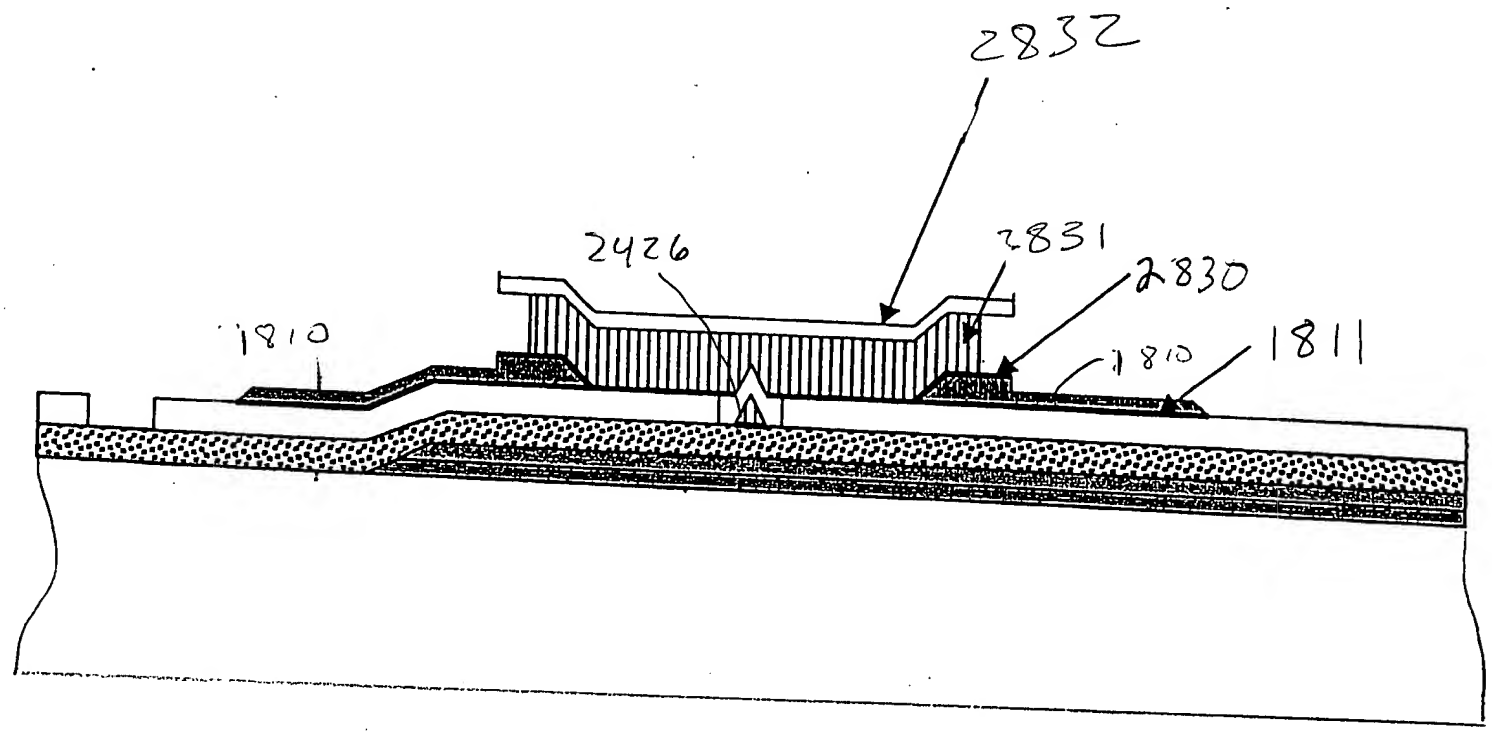


FIG 27 C

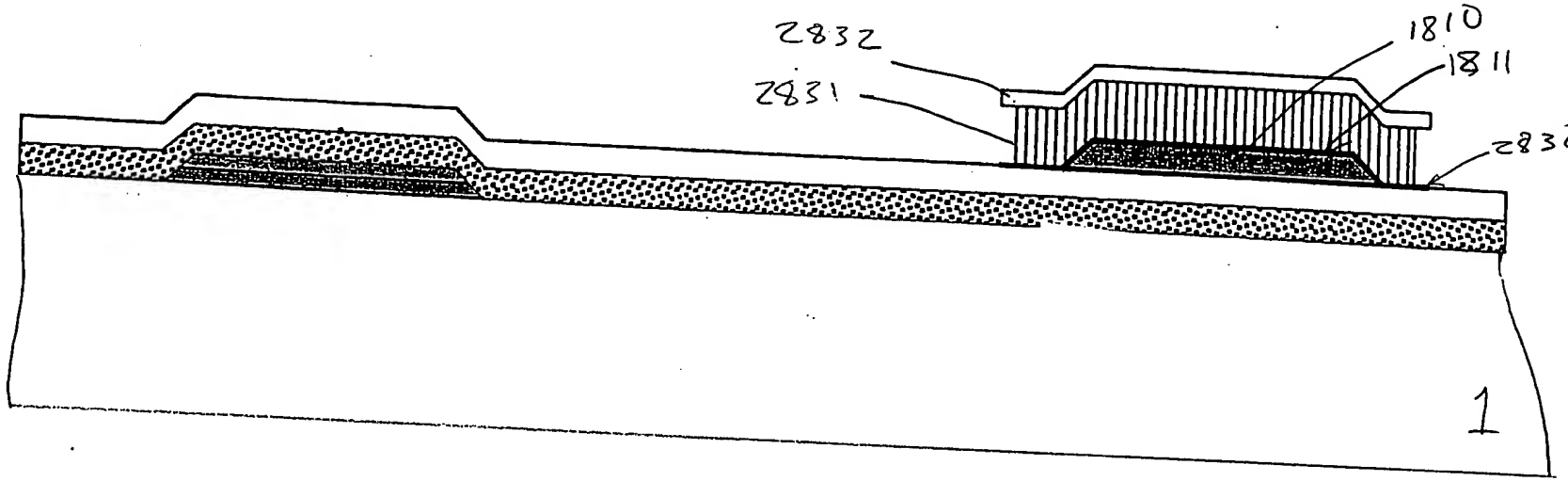


FIG 28D

FIG 28E

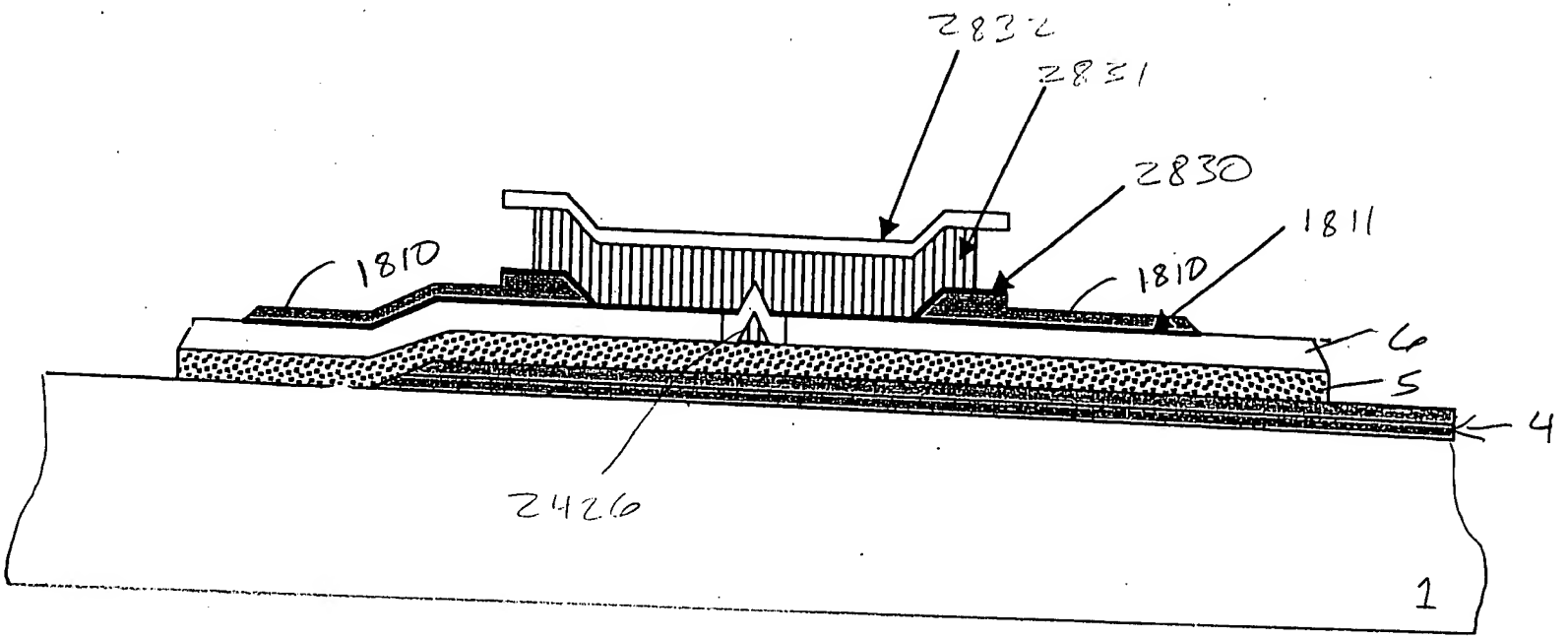
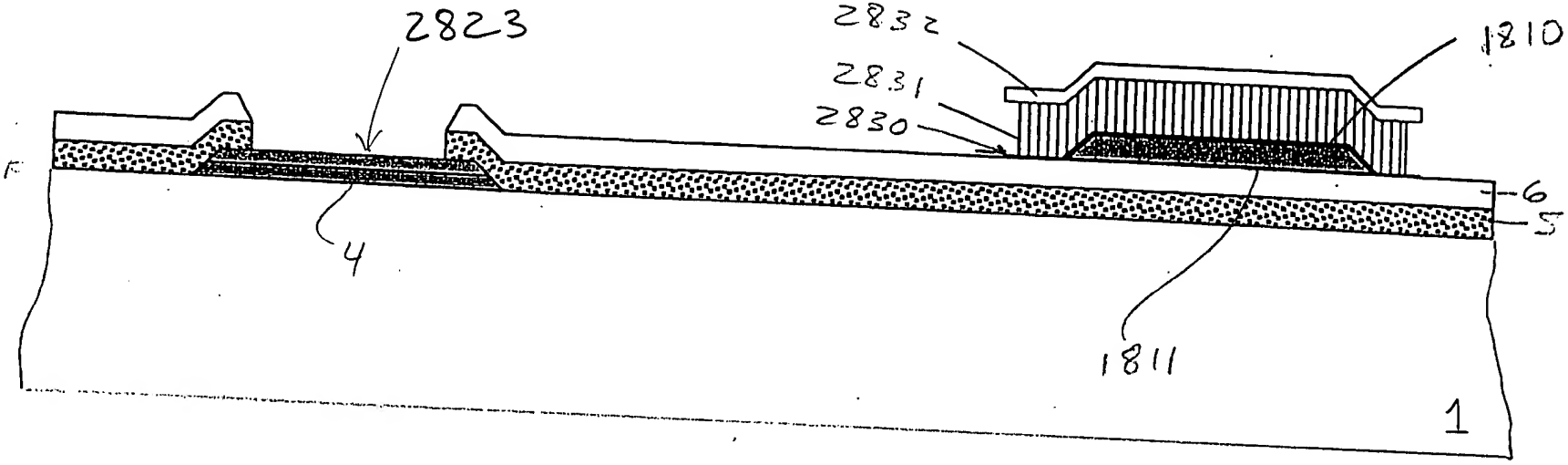


FIG 28F



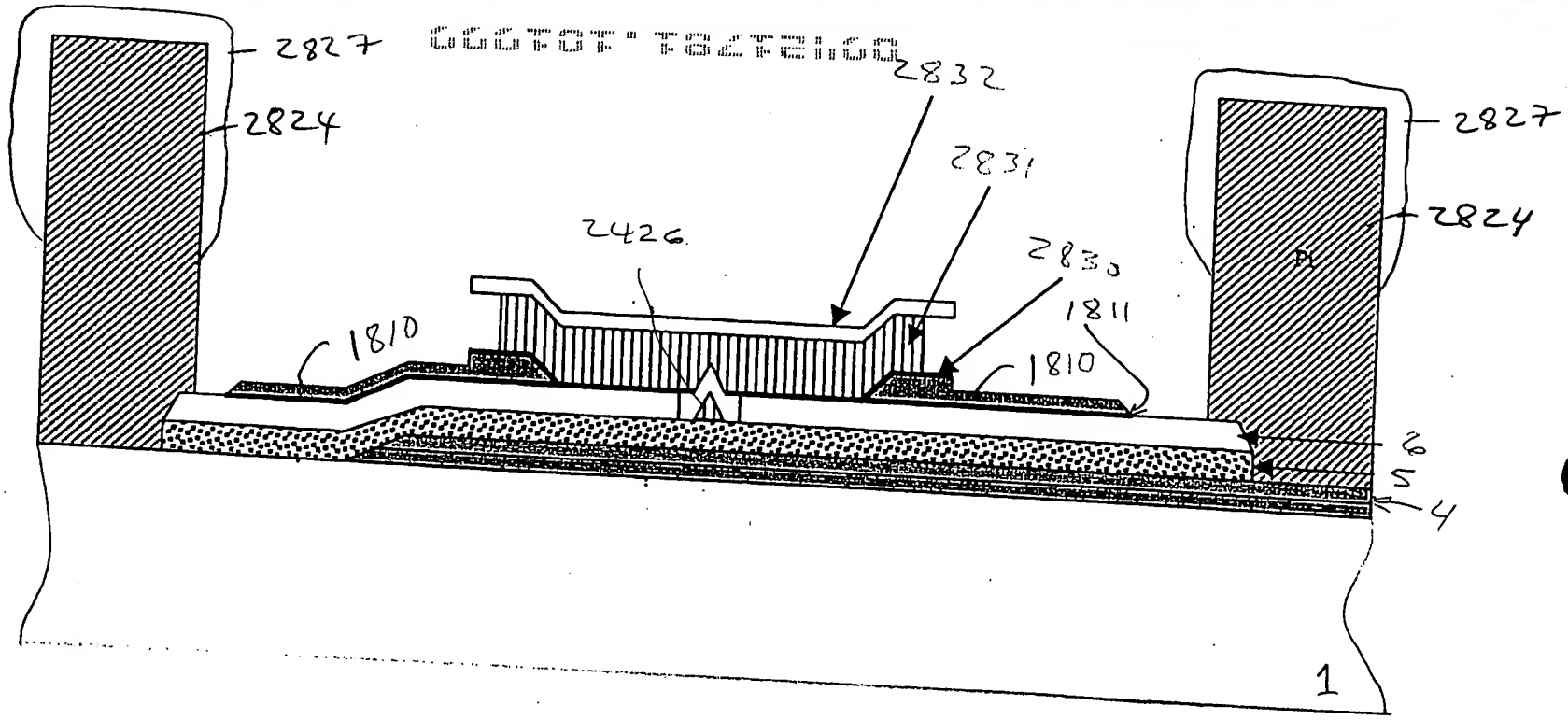


FIG 28G

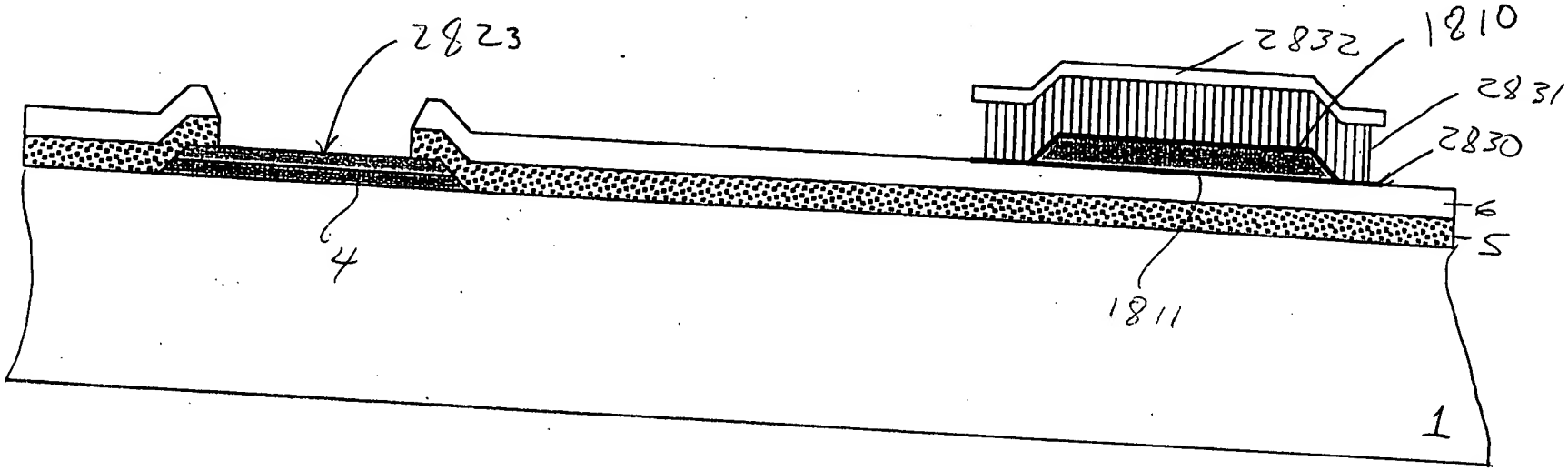


FIG 28H

FIG 2P1

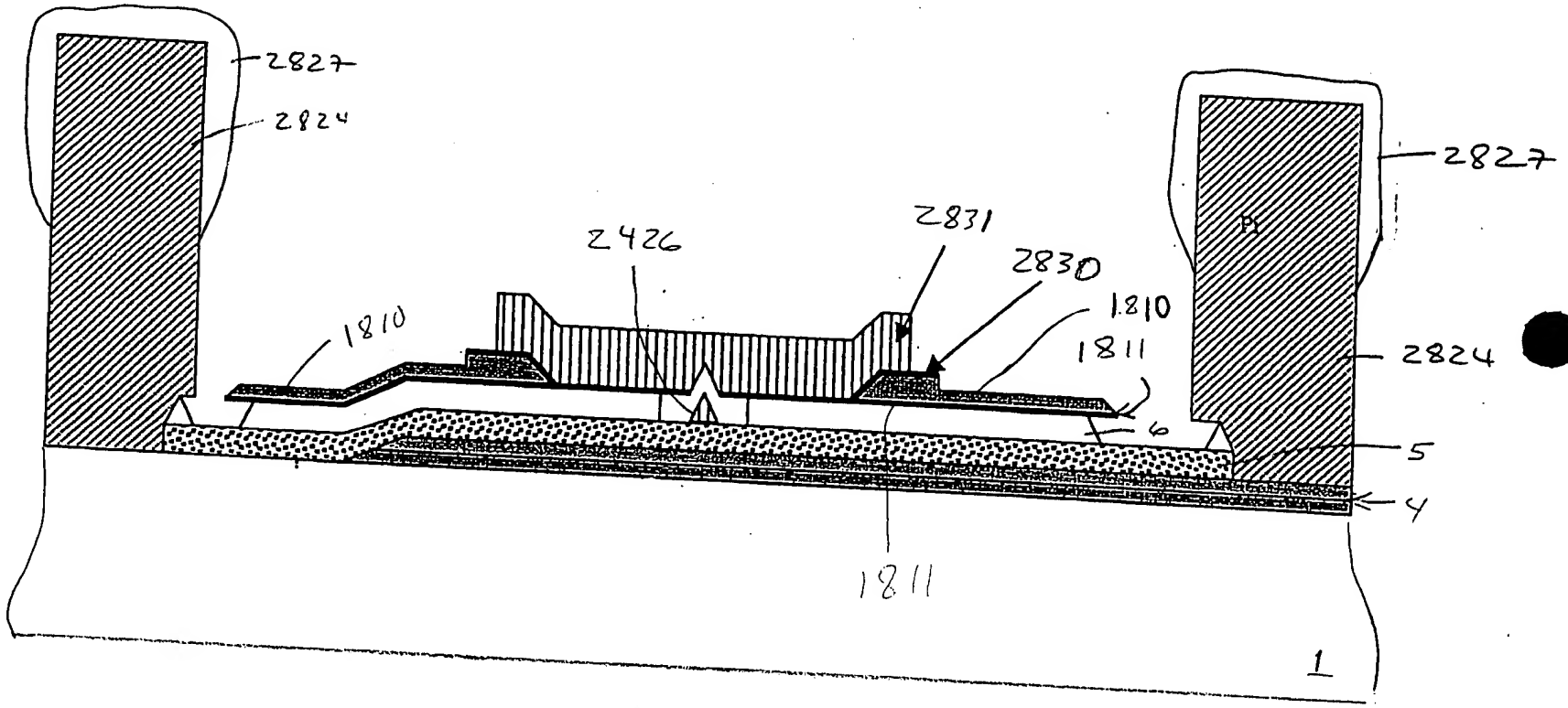
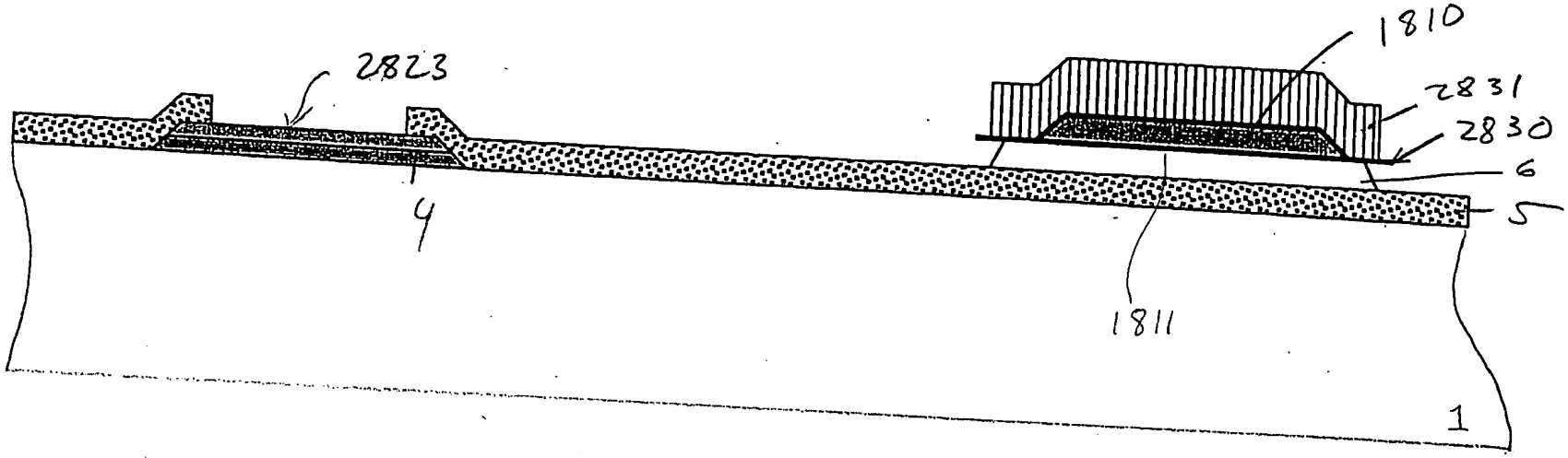


FIG 2P3



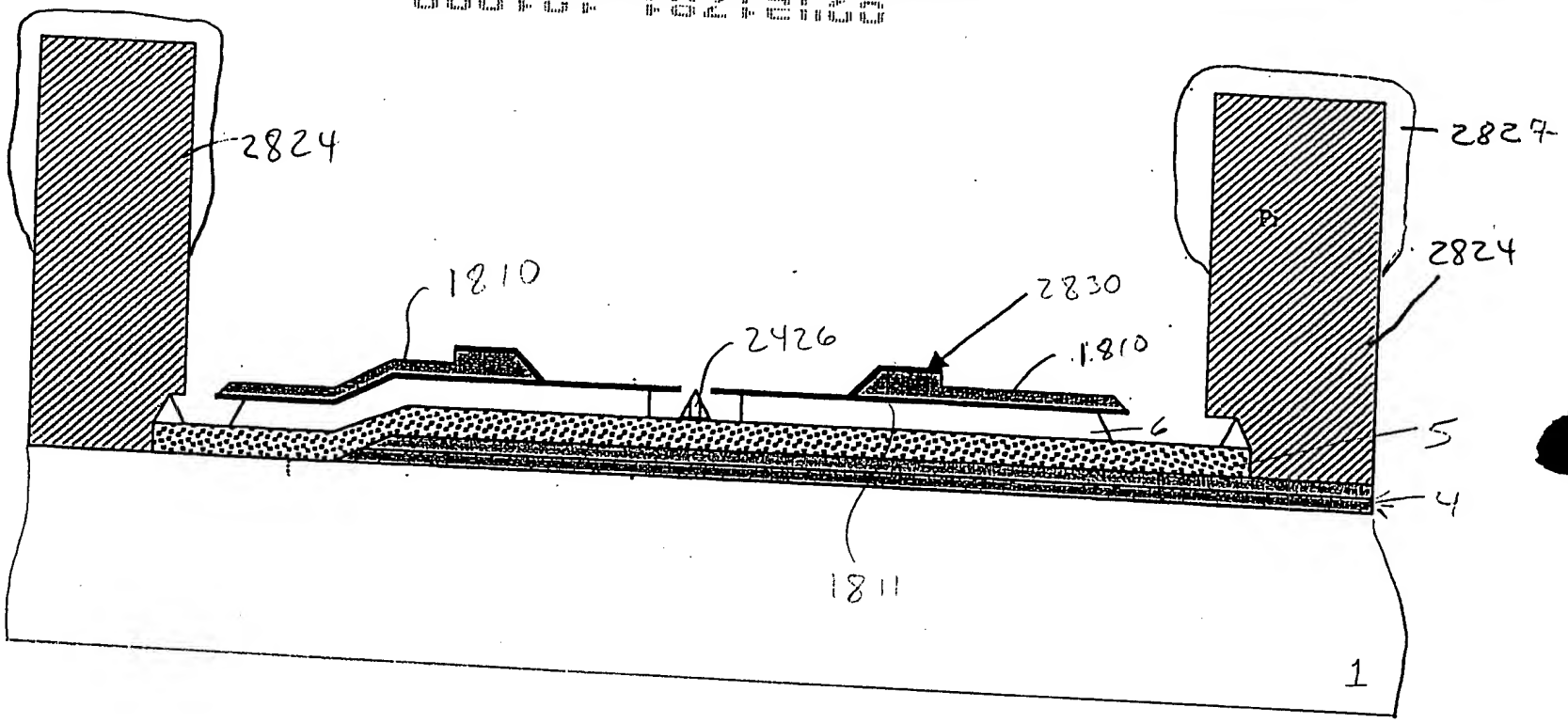


FIG 28K

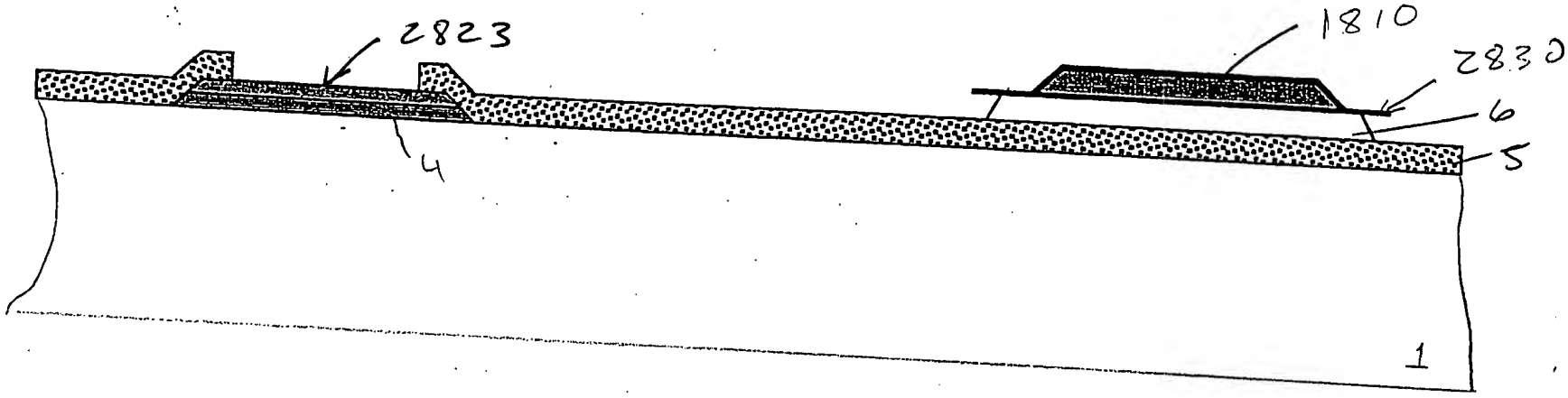


FIG 28L